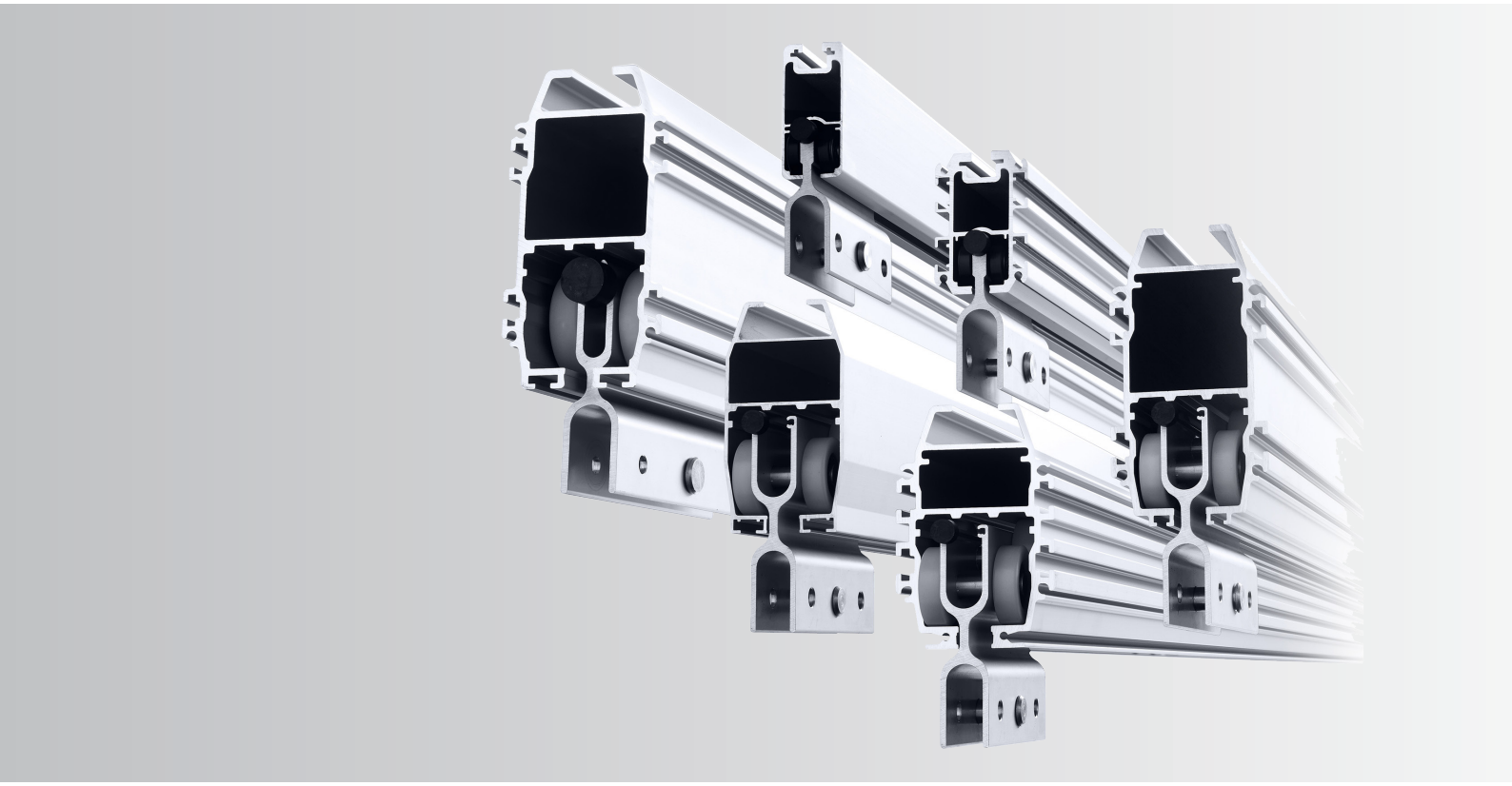
Mechrail

Catalogue
730699-EN | 2016-11-01
EN



movomech
Weightless applications

CE EC declaration of conformity of the machinery

TRANSLATION
(according to 2006/42/EC, annex 2B)

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Representative for documentation
Arne Ask
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hereby declares that the machinery

Designation
Mechrail

Machine type
Standard components for rail systems

Version
PHB, LHB, AHB

complies to all applicable regulations in

☒ **Machinery Directive 2006/42/EC**

☒ **EMC Directive 2004/108/EC**

and that standards and/or technical specifications as described below are applied.

☒ **Machinery Directive**
SS-EN-ISO 12100:2010

☒ **EMC Directive**

☒ **Low Voltage Directive**
IEC 60204-32
IEC 60204-1

Place: Kristianstad

Date: 2014-03-14

Arne Ask, CEO
Movomech AB

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Weightless applications

Although the greatest care was taken regarding the information in this catalogue, we assume no responsibility for any errors. We reserve the right to make changes.

ILLUSTRATIONS – The illustrations in the catalogue represent the described products, but delivered parts may differ in some respects from the illustrations.

SPECIFICATIONS – The right is reserved to make changes in design and dimensions compared with the information in the catalogue in order enable development of designs, material and manufacturing methods.

The customer is reminded that in the purchase of our products for professional use or other, there is supplementary, current information that could not be included in the catalogue in terms of recommendations on each product's suitability regarding different combinations of the comprehensive product line of Movomech.

All relevant information must be provided to the persons who are responsible for the use of the product.

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Contents

Safety instruction

Movomech's equipment is manufactured in accordance with the latest technological advances, and according to the latest applicable european standards and directions. The aim of this documentation is to provide the user with practical instructions for safe operation and simple maintenance of the equipment.

Anyone who deals with the installation of the equipment (including related equipment), operational procedure, use, maintenance, and/or repair functions must have read and understood:

- the instruction manual,
- the safety regulations, and
- the safety instructions for each individual section.

In order to avoid misuse and to ensure the reliable operation of the products, we recommend that the instruction manual is always available to the user/operator.

Intended usage

The equipment is intended exclusively for transportation, lifting and lowering of load. Any other use, including the towing of a load and the transportation of passengers, is prohibited (see below for more examples). Movomech does not accept responsibility for damage caused by such use. All risks are the sole responsibility of the user.

The equipment may only be used in perfect technical condition by trained staff, and in accordance with current safety and work protection regulations. Furthermore, the user must observe operational and maintenance conditions contained in the instruction manual.

Severe personal injury and damage to equipment can be caused by:

- removal of covers and casings,
- non-professional installation of equipment,
- incorrect usage, or
- insufficient maintenance.

Prohibited usage

Certain types of activities and operations are prohibited, as in specific circumstances they can cause personal injury as well as permanent damage to the construction. For example:

- It is prohibited to convey passengers using the equipment.
- Never transport suspended loads above anyone's head.
- Never drop a suspended load, and make sure it is lifted in a straight line.
- Never loosen secured or fastened loads by using the equipment.
- Do not overload.
- Do not leave a suspended load unattended.

General safety aspects

The instruction manual should always be kept within easy reach of the equipment. It contains important safety information and sections that relate to guidelines, norms, and regulations.

Failure to follow the safety regulations in this instruction manual may result in personal injury or death.

In addition to the instruction manual, generally applicable regulations and rules must be followed and adhered to in order to avoid accidents and protect the environment. This also applies to regulations relating to the handling of products dangerous to the environment and the use of personal safety equipment.

As regards all work associated directly or indirectly with the equipment, the user must follow and adhere to all the above regulations as well as current work protection and safety regulations. In spite of this, a life-threatening risk still prevails in cases where the equipment is used and operated by non-trained or non-instructed staff in a non-professional or non-intended way.

The user should supplement the instruction manual with instructions that consider the nature of the operation, e.g. company organisation, work procedures, and number of staff.

The members of staff who are assigned to work with the equipment must have read the instruction manual prior to undertaking any work, and he/she should pay particular attention to the chapters containing safety instructions. It is too late once work has commenced. This applies in particular to members of staff who are working with the equipment on a temporary basis, e.g. for maintenance purposes.

When convenient, the staff should be tested on their knowledge of the manual's contents that relate to safety and accident awareness.

The user is responsible for ensuring that the equipment is used only when it is in perfect condition and that all applicable and relevant safety regulations and requirements are followed.

The equipment should be taken out of operation immediately if functional damage or defects are discovered.

Personal safety equipment should be used as and when necessary, or when required by regulations.

Safety and warning devices, such as signs, stickers and labels must not be removed or made illegible.

All safety and warning devices on or adjacent to the equipment should be complete and maintained in a legible/functional condition.

All changes, extensions or reconstruction that may affect safety are forbidden without a written permission from Movomech. This also applies to assembly and adjustment of safety equipment and welding of structural parts.

Spare parts must comply with Movomech's stated technical requirements. This compliance is guaranteed when original spare parts are used. The intervals prescribed or stated in the instruction manual for regular testing/inspection must be adhered to!

Staff selection and qualifications

Reliable staff must carry out work with/on the equipment. Regulations that apply to under-age persons must be followed.

The user is responsible for supplying necessary training and instructions to those that he/she employs, including professionals and/or apprentices.

It is recommended that the user draws up instructions and guidelines relating to the causes of errors, communicates these to the relevant staff, and posts directions on appropriate and clearly visible places.

It is recommended that the user makes sure that the knowledge of the staff is adequate as regards the following points, prior to the operation of the construction:

- knowledge of the contents of the instruction manual,
- knowledge of the safety and user regulations contained therein, and
- knowledge of applicable work protection regulations.

Only trained and instructed staff should be permitted to work with the equipment. Parameters relating to use, maintenance, and installation should be clarified.

Safety instructions for usage

The only persons allowed to work on the electrical equipment are competent staff members who work in accordance with regulations and standards for high-voltage equipment.

No persons under the influence of drugs, alcohol or medication which affects their ability to react, are allowed to use, maintain, or repair the construction.

All stated actions and instructions relating to work protection and issues relating to general safety and protection of workers that should be carried out or studied prior to, during or following operation must be followed to the letter. Failure to do so may result in fatal accidents.

The equipment should be stopped or taken out of operation at the time of detection of faults relating to work protection and operational accessibility.

Safety equipment must not be deactivated, altered or used in a way that conflicts with applicable regulations.

Appropriate actions must be taken to ensure safe operation and functional conditions for the user.

The equipment should only be used when all protective and safety equipment, such as detachable guards and emergency stop devices, are in place and in working order.

Any type of modification and alteration of the equipment is prohibited. However, this does not apply to lesser changes that do not affect the strength, operational safety or work protection, or to actions which promote an increased level of safety. The fundamental responsibility for these changes lies with the user. If in doubt, contact Movomech for a written approval of the actions prior to implementation.

The equipment should be stopped and locked immediately when functional faults occur. Faults should be corrected immediately!

Following an ”emergency stop” the user has to wait for the cause of the disruption to be repaired and for an assurance that there is no further danger before he/she reconnects the equipment and resumes operation.

The equipment should be disconnected immediately in the following cases:

- when electrical equipment, cables and/or insulation material is damaged, or
- when work protection equipment is damaged.

Specific local circumstances or applications may lead to situations that were unknown at the time of writing this document. In such cases, the user must ensure safe operation and disconnect the equipment until measures to maintain safe operation have been carried out in conjunction with Movomech or other authorised party.

Ensure that no one can become injured when they use the equipment prior to connecting/activating the equipment.

If the user notices the presence of persons who may become injured during operation, the operation should be discontinued immediately and must not be resumed until these persons have left the dangerous area.

The user must make sure that the equipment is in a perfect and operationally safe condition prior to all operations using the equipment.

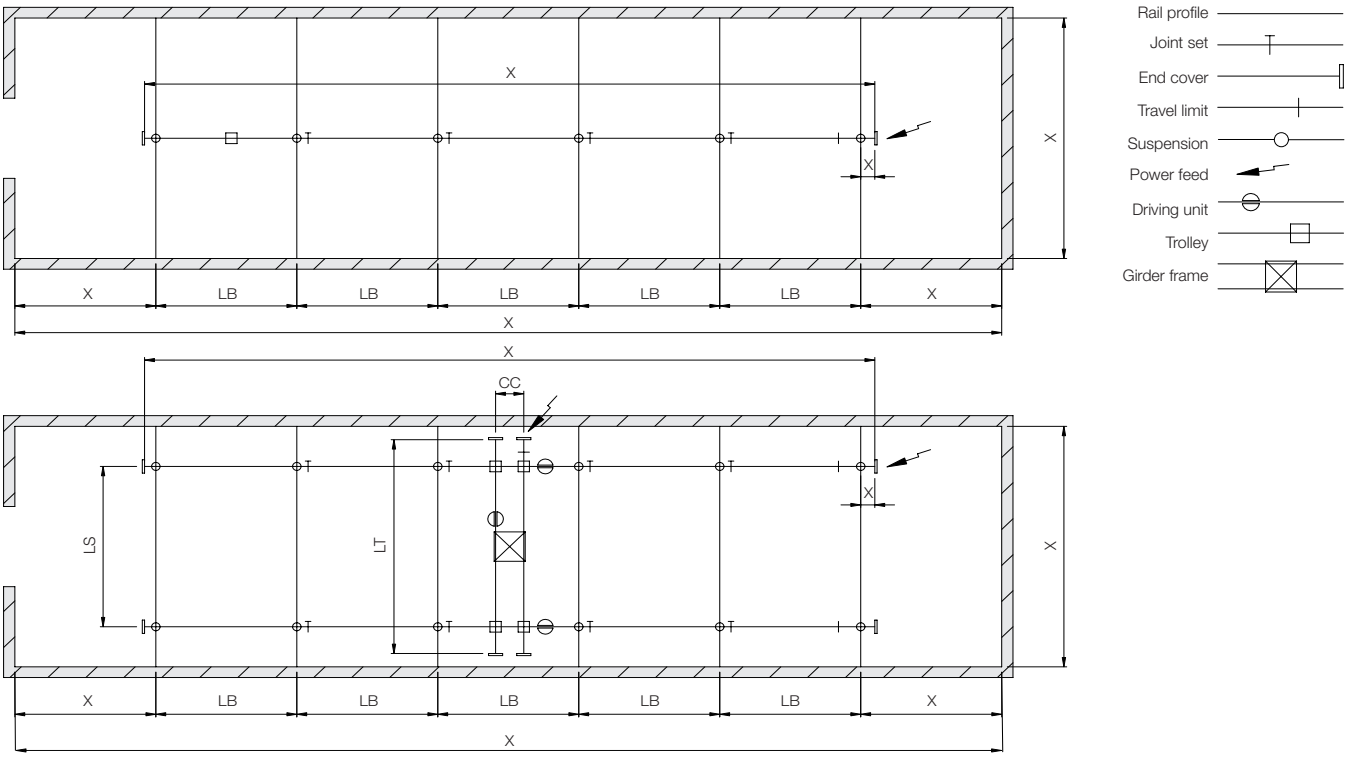
The user should carry out all prescribed safety measures and make sure that automated procedures are completed when the equipment is disconnected (e.g. when there are deficiencies as regards operational and personal safety, an emergency situation exists, repair or maintenance is being carried out, damage is noticed or at the completion of work).

Work with the equipment is only allowed when the operator has been instructed to do so by his superior, and if the operator has knowledge of the equipment and its function.

Planning

Planning of overhead cranes and overhead conveyor systems

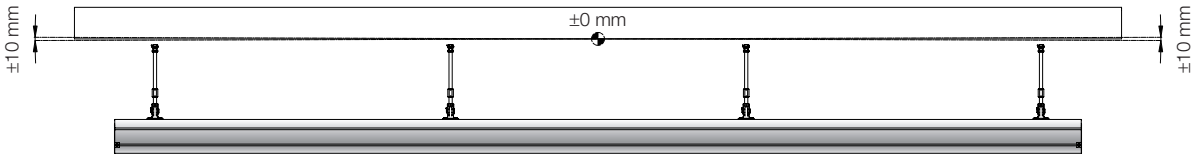
All requisite data must be gathered to plan the Mechrail systems. Planning is based on sketches or drawings drawn to scale with the conveyor routes, the placement of suspension fittings and joints as well as the number of trolleys and cranes.



Tolerance requirements

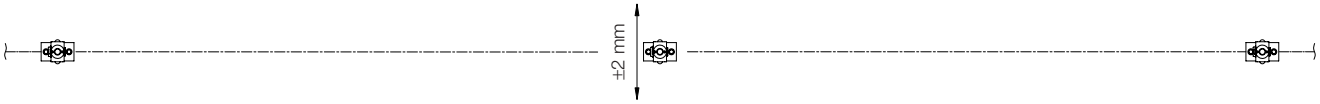
Horizontal plan - Overhead structure

Overhead structure may not exceed the tolerance of ± 10 mm horizontally.



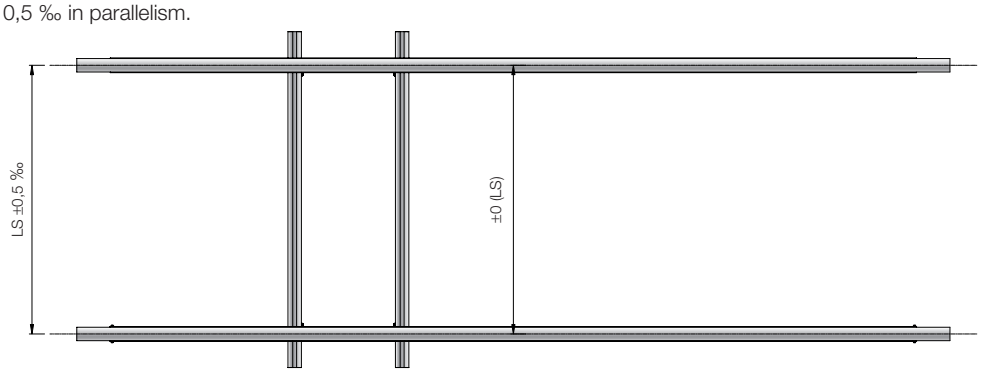
Straightness - Tracks

The suspensions for a track may not be placed with a greater deviation than ± 2 mm from the track direction.



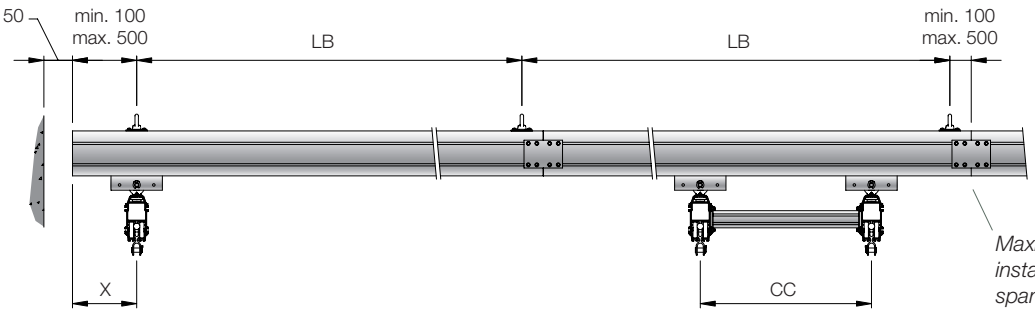
Parallelism - Double track

The suspensions for a track may not be placed with a greater deviation than ± 0,5 ‰ in parallelism.



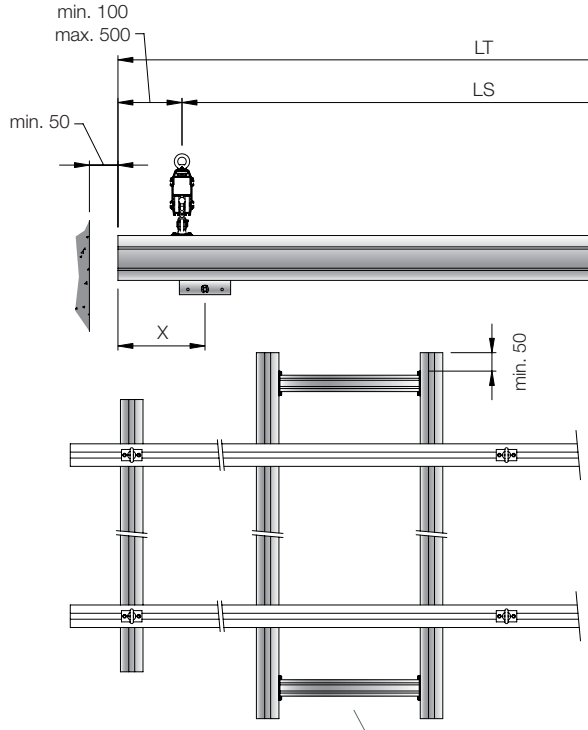
Installation dimension

Track



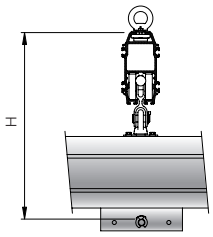
Maximum 1 joint may be installed within a track span LB.

Crane



Double cranes must be equipped with two distances.

LB = track span
LT = crane length
LS = crane span
CC = center distance DT
DT = double crane
X = component related distance
Y = component related distance

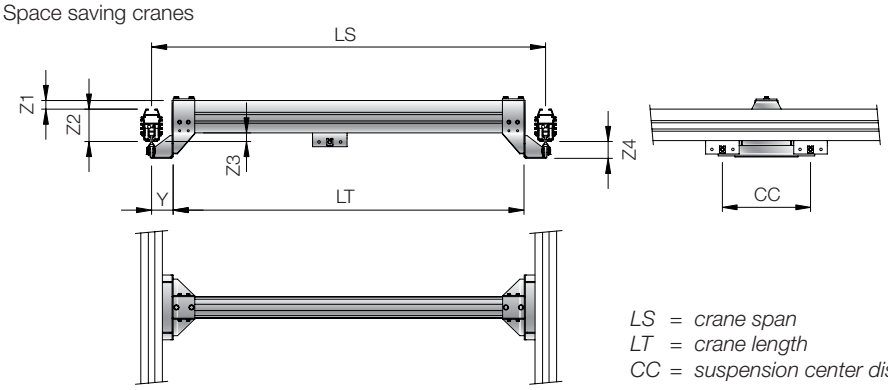


Rail combination

Trolley: A
Crane girder suspension: A

Crane \ Track	H	PHB	LHB	PHB1	AHB1.1	AHB2	AHB3
	PHB	306	303	329	365	405	426
	LHB	303	301	326	363	402	423
	PHB1		362	424	424	464	485
	AHB1.1	-	363	388	425	464	485
	AHB2	-	-	428	464	504	525
	AHB3	-	-	454	490	530	551

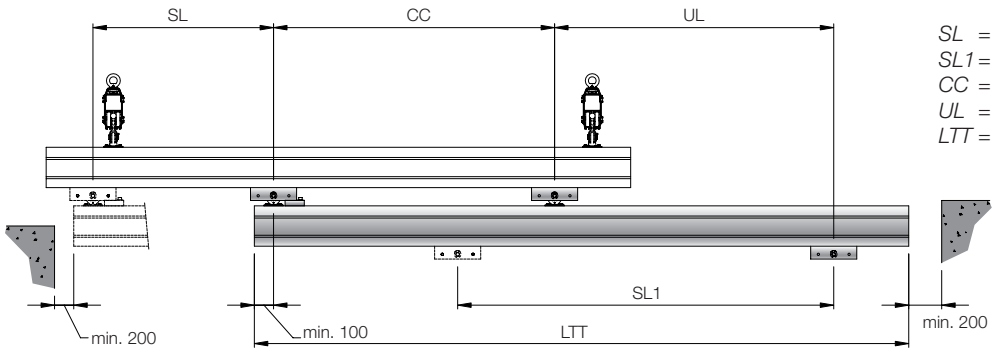
Space saving cranes



	Y	Z1	Z2	Z3	Z4
LHB/LHB	99	0	90	0	106
AHB1.1/AHB1.1	111	41	153	41	106
AHB1.1/AHB2	111	41	153	38	106
AHB2/AHB1.1	111	6	190	8	108
AHB2/AHB2	111	6	190	6	108
AHB3/AHB3	147	1	210	1	109

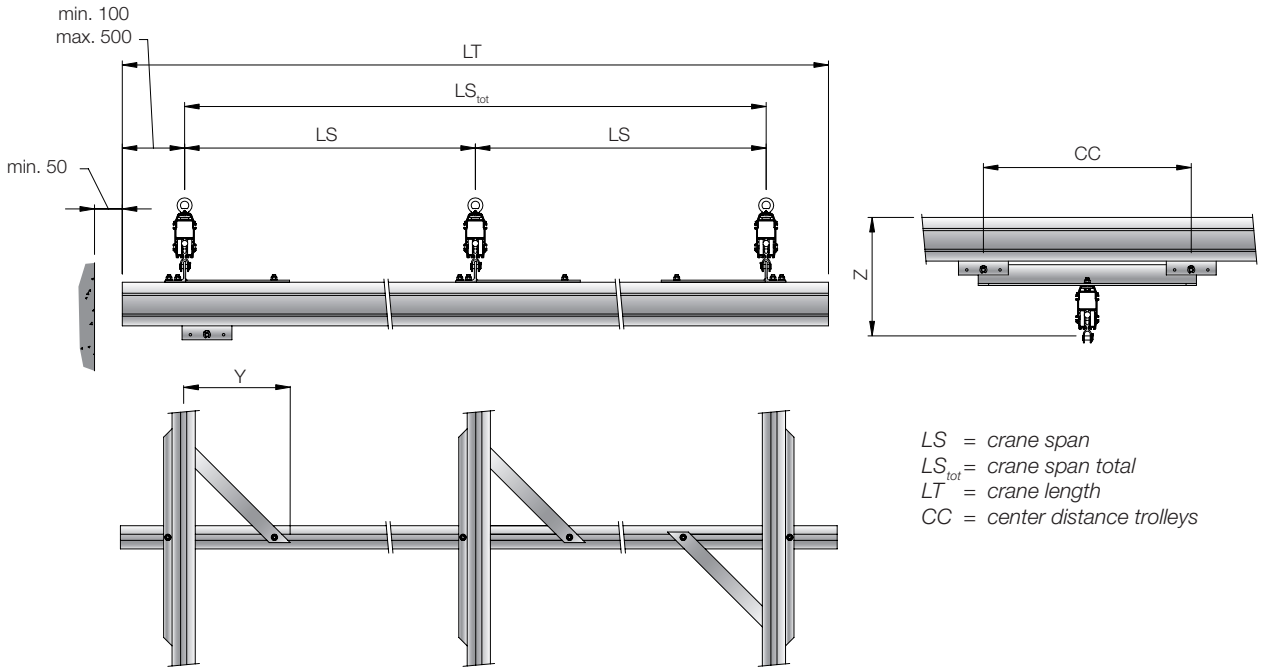
LS = crane span
LT = crane length
CC = suspension center distance

Telescopic cranes



SL = crane stroke
SL1 = telescopic crane stroke
CC = suspension center distance
UL = overhang
LTT = telescopic crane length

Triple track system



LS = crane span
LS$_{tot}$ = crane span total
LT = crane length
CC = center distance trolleys

		LS$_{tot}$ <2000		>2000 <4000		<4000		>4000 <6000		>6000 <8000		>8000 -10000	
	Z	CC	Y	CC	Y	CC	Y	CC	Y	CC	Y	CC	Y
LHB/LHB	287	250	142,5	500	267,5	-	-	750	392,5	1000	517,5	-	-
PHB1/PHB1	437	-	-	-	-	500	254	750	379	1000	504	1250	629
AHB1.1/AHB1.1	438	-	-	-	-	500	254	750	379	1000	504	1250	629
AHB1.1/AHB2	478	-	-	-	-	500	254	750	379	1000	504	1250	629
AHB2/AHB2	518	-	-	-	-	500	254	750	379	1000	504	1250	629
AHB3/AHB3	571	-	-	-	-	500	255	750	380	1000	505	1250	630

Design criteria for the crane

Single crane (ET)

Double crane (DT)

B = track
ET = single crane
DT = double crane

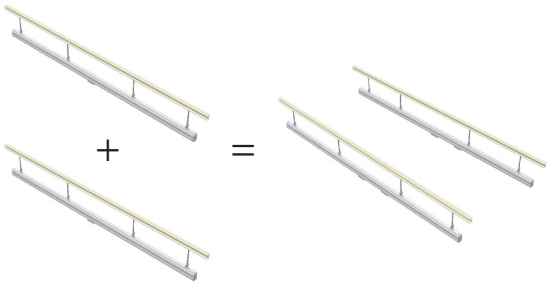
F = sum of all loads
LB = track span
LS = crane span

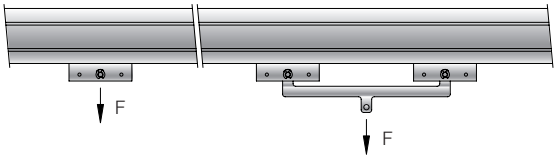
	LS$_{max}$	LB$_{max}$
PHB:	5,8 m	6,0 m
LHB:	7,5 m	7,7 m
PHB1:	5,8 m	6,0 m
AHB1.1:	7,5 m	7,7 m
AHB2:	7,5 m	7,7 m
AHB3:	7,5 m	7,7 m

Design criteria for the track (B)

NOTE! A track with a crane consists of two single tracks (2 x B).

Track with a crane:
Remember to include half the self-weight of the crane as well as its load in the load calculation of LB for the track.

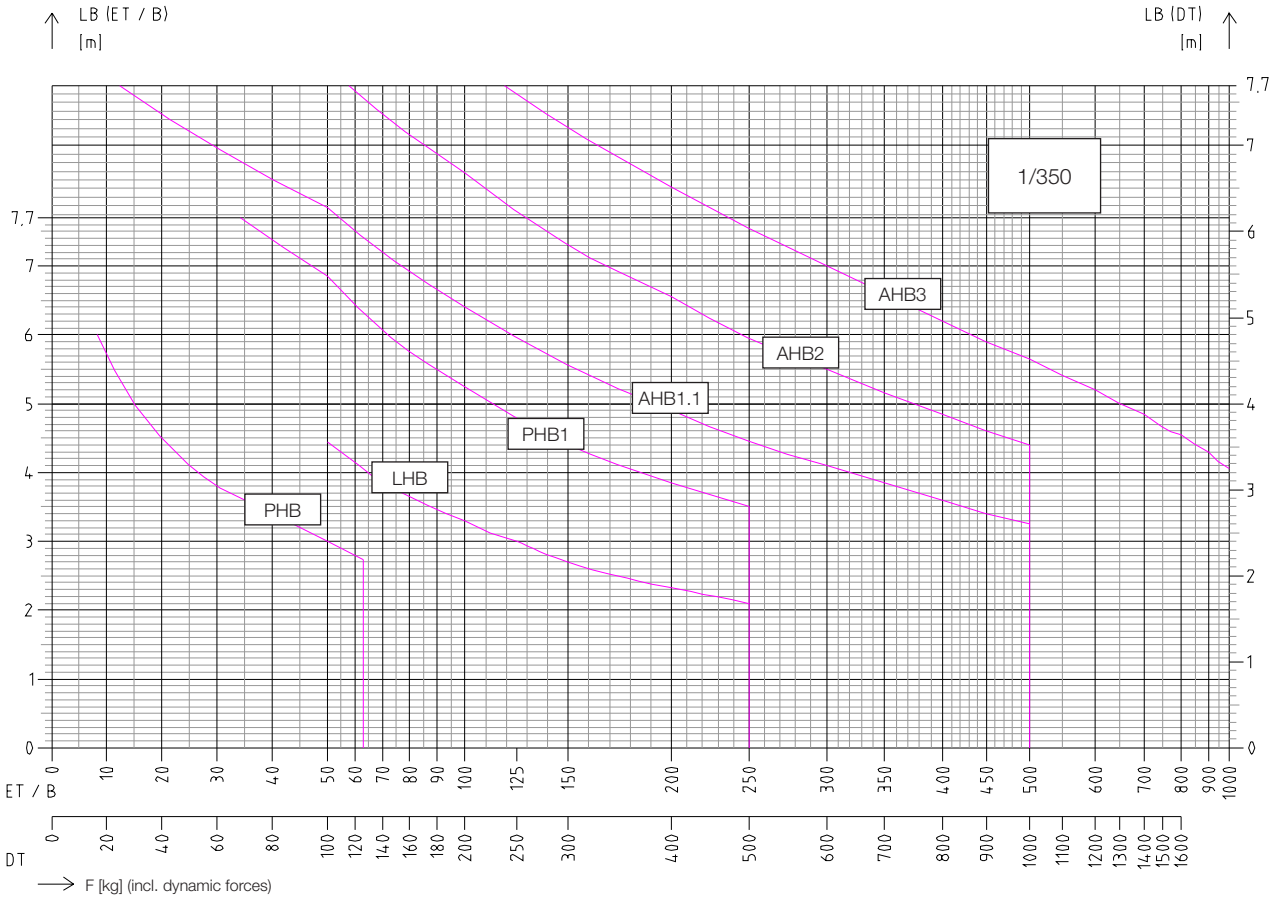




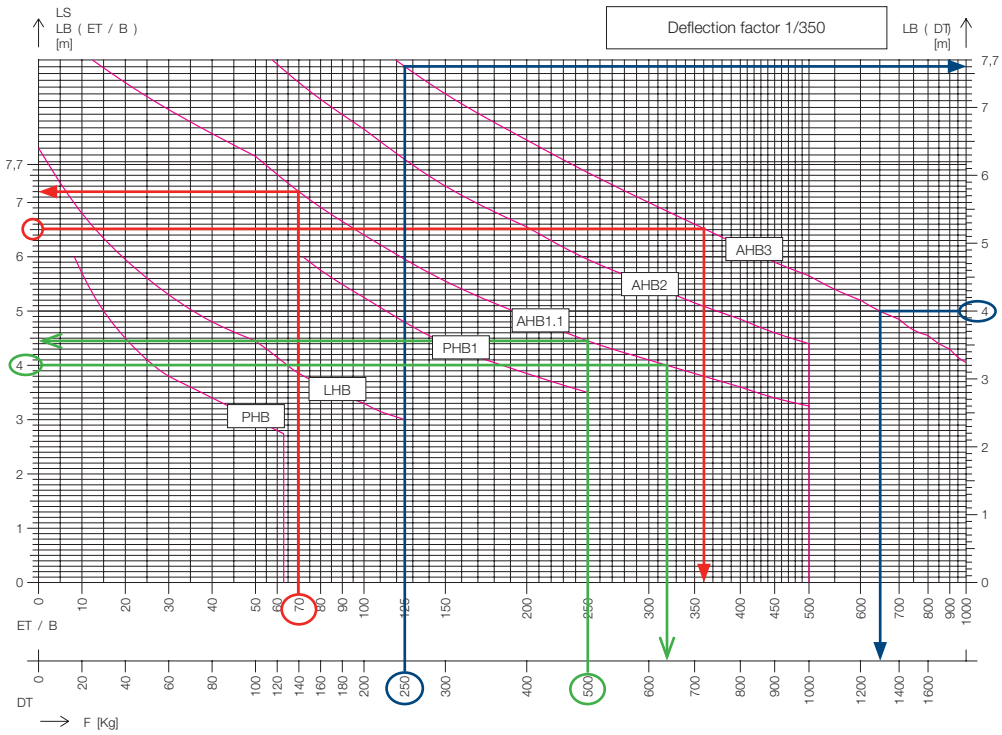
Maximum load (F) is the total load, including dynamic impact, applied to the trolleys.

Load capacity of the profiles according to the diagram

The diagram for the load capacity of the profiles, crane span (LS) and the spacing of suspension fittings along the track (LB) form the basis of determining the profile dimensions for cranes and tracks. Accordingly, the permitted suspension spacing/forces and trolley loads, overhang and joint spacing must all be taken in to consideration.



How to use the diagram



Look for the maximum LS or LB at the stated F for ET or B → *F = 70 kg --> LS or LB = 7,2 m for AHB1.1*

Look for the maximum F at the stated LS or LB for ET or B → *LS or LB = 6,5 m --> F = 360 kg for AHB3*

Look for the maximum LS at the stated F for DT → *F = 500 kg --> LS = 4,45 m for AHB1.1*

Look for the maximum F at the stated LS for DT → *LS = 4,0 m --> F = 640 kg for AHB1.1*

Look for the maximum LB at the stated F for DT → *F = 250 kg --> LB = 7,6 m for AHB3*

:ook for the maximum F at the stated LB for DT → *LB = 4,0 m --> F = 1300 kg for AHB3*

Example:

Load capacity of the profiles according to tables

(incl. dynamic forces)

INFORMATION

1: Double trolley in the crane
2: Double trolley in the track

Deflection factor 1/350

Single crane

	PHB					LHB				PHB1				AHB1.1				AHB2				AHB3			
	Max LS	Max LB				Max LS	Max LB			Max LS	Max LB			Max LS	Max LB			Max LS	Max LB			Max LS	Max LB		
		PHB	LHB	PHB1	AHB1.1		LHB	PHB1	AHB1.1		PHB1	AHB1.1	AHB2		AHB1.1	AHB2	AHB3		AHB1.1	AHB2	AHB3		AHB1.1	AHB2	AHB3
S.W.L	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
16	4900	4500	5900			6200	5400																		
25	4100	3900	5400			5600	5000																		
32	3700	3600	5000			5200	4700	7200	8100																
40	3300	3300	4700	7200	8100	4800	4500	6900	7900																
50	3000	3000	4300	6700	7700	4400	4200	6500	7500					7600	6900										
63	2700	2700	4000	6200	7300	4000	3800	6000	7100	5900	5900	7000		7400	6600										
80			3600	5700	6800	3600	3500	5600	6700	5700	5400	6600		6900	6200										
100			3300	5200	6400	3300	3200	5100	6300	5200	5000	6200	8100	6400	5900	7800									
125			3000	4700	5900	3000	2900	4700	5800	4800	4600	5700	7600	5900	5500	7300		7600	5400	7100					
160						2600[1]	2600[2]	4200[2]	5300[2]	4300[1]	4200[2]	5200	7000	5400	5100	6800		7100	5000	6600					
200						2400[1]	2300[2]	3800[2]	4800[2]	3800[1]	3800[2]	4800	6400	4900	4700	6300	7900	6500	4600	6200	7800	7600	4500	6000	7600
250						2100[1]	2100[2]	3400[2]	4400[2]	3500[1]	3400[2]	4400	5900	4400	4300	5800	7300	5900	4200	5700	7200	7500	4100	5600	7100
320														4000[1]	3900[2]	5200[2]	6700	5300[1]	3800[2]	5200[2]	6600	6800	3800[2]	5100[2]	6500
400														3600[1]	3500[2]	4800[2]	6100	4800[1]	3500[2]	4700[2]	6100	6200	3400[2]	4600[2]	6000
500														3200[1]	3200[2]	4300[2]	5500	4400[1]	3100[2]	4300[2]	5500	5600	3100[2]	4200[2]	5500

Double crane

	LHB			AHB1.1				AHB2				AHB3			
	Max LS	Max LB		Max LS	Max LB			Max LS	Max LB			Max LS	Max LB		
		LHB	AHB1.1		AHB1.1	AHB2	AHB3		AHB1.1	AHB2	AHB3		AHB1.1	AHB2	AHB3
S.W.L	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
16	7000	5100													
25	6500	4900													
32	6200	4800													
40	5900	4700													
50	5600	4600	8000	7600	6800										
63	5200	4400	7800	7600	6600										
80	4800	4200	7500	7600	6400										
100	4400	3900	7300	7600	6200	8100		7600	6100	8000		7600	5700	7500	
125	4000	3700	6900	7400	6000	7900		7600	5900	7700		7600	5500	7300	
160	3600	3400	6500	6900	5800	7600		7600	5600	7400		7600	5300	7000	
200	3300	3100	6100	6400	5500	7300		7600	5300	7000		7600	5000	6700	
250	3000	2900	5700	5900	5200	6900		7600	5000	6600		7600	4800	6400	8000
320	2600[1]		5200	5400	4900	6500	8100	7100	4700	6300	7900	7600	4500	6000	7600
400	2300[1]		4800	4900	4500	6100	7600	6500	4400	5900	7400	7600	4200	5600	7100
500	2100[1]		4400	4400	4200	5600	7100	5900	4100	5500	7000	7500	3900	5200	6700
630				4000[1]			6600	5400[1]			6500	6800			6300
800				3600[1]			6000	4800[1]			5900	6200			5800
1000				3200[1]			5500	4400[1]			5400	5600			5300

Single track

	PHB	LHB	PHB1	AHB1.1	AHB2	AHB3
	Max LB	Max LB	Max LB	Max LB	Max LB	Max LB
S.W.L	mm	mm	mm	mm	mm	mm
16	4900	6200				
25	4100	5600				
32	3700	5200				
40	3300	4800		8200		
50	3000	4400	6500	7800		
63	2700	4000	6300	7400		
80		3600	5700	6900		
100		3300	5200	6400		
125		3000	4800	5900	7800	
160		2600[2]	4300[2]	5400	7100	
200		2400[2]	3800[2]	4900	6500	8100
250		2100[2]	3500[2]	4400	5900	7500
320				3600[2]	5300[2]	6800
400				3600[2]	4800[2]	6200
500				3200[2]	4400[2]	5600
630						5000[2]
800						4500[2]
1000						4000[2]

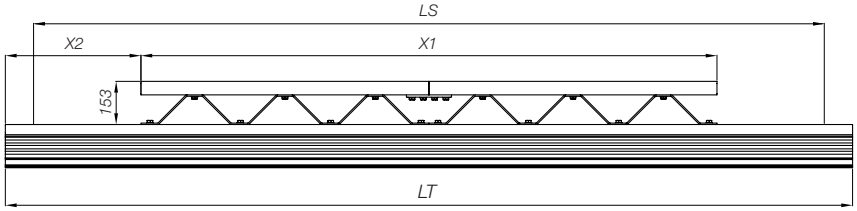
Framework

#	X1	LT	X2	LS, LB	AHB1.1	AHB2	AHB3
	mm	mm	mm	mm	kg ↓	kg ↓	kg ↓
737599	3060	4000	470	3300 - 3800		1000	
737600	4080	5000	460	4300 - 4800	1000	1000	1000
737601	5100	6000	450	5300 - 5800	1000	1000	1000
737602	6120	7000	440	6300 - 6800	750	850	1000
737603	7140	7700	280	7300 - 7500	600	675	875

INFORMATION

Used to reinforce a crane or a track when an extra long suspension distance is needed, alternatively a higher load or a smaller deflection.

The rail profile is ordered separately.



INFORMATION

[1] Article with extended delivery time

Important! Check the maximum load of accessories, such as suspensions and trolleys, which most oftenly are the load-limiting components when the framework is used.

Operation rating

Allowable operation ratings for Mechrail with respect to fatigue strength.

		Total amount of load fluctuations (endurance)			
		N1	N2	N3	N4
		Casual, not regular use with longer resting periods	Regular use with intermittent operation	Regular use with continuous operation	Regular use with tough continuous operation
Case of load		< 200.000	200.000 - 600.000	600.000 - 2.000.000	> 2.000.000
S0	Very few load fluctuations. Careful operation.	B1	B2	B3	B4
S1	Small load fluctuation. Soft operation.	B2	B3	B4	B5
S2	Moderate load fluctuation.	B3	B4	B5	B6
S3	Large load fluctuation. Tough operation.	B4	B5	B6	B6

When calculating allowable capacity of trolleys and suspending components, following reduction factor must be considered:

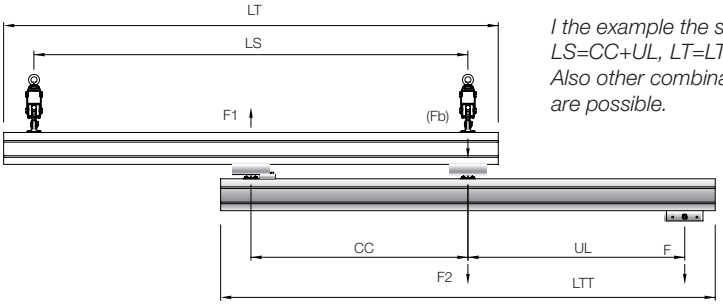
Trolleys	B1	B2	B3	B4	B5	B6	
without joints on the rail	1.0	1.0	1.0	1.0	0.8	0.7	} x capacity
with joints on the rail	1.0	1.0	0.9	0.75	0.65	0.55	

Suspending components	B1	B2	B3	B4	B5	B6	
	1.0	1.0	1.0	1.0	0.8	0.7	x capacity

Load capacity of telescopic cranes

It is extremely important that load calculations are made in order to avoid overloading. The calculated forces must be accommodated within the permitted load values for the rail system and its component parts.

For the design of single and double telescopic cranes, contact Movomech.



I the example the specific case LS=CC+UL, LT=LTT is used. Also other combinations are possible.

F1 = F(UL/CC)
F2 = F(CC+UL)/CC
F = load (kg)
CC = distance between suspension fittings
UL = overhang
Fb = max load on track (kg)
LT = profile length

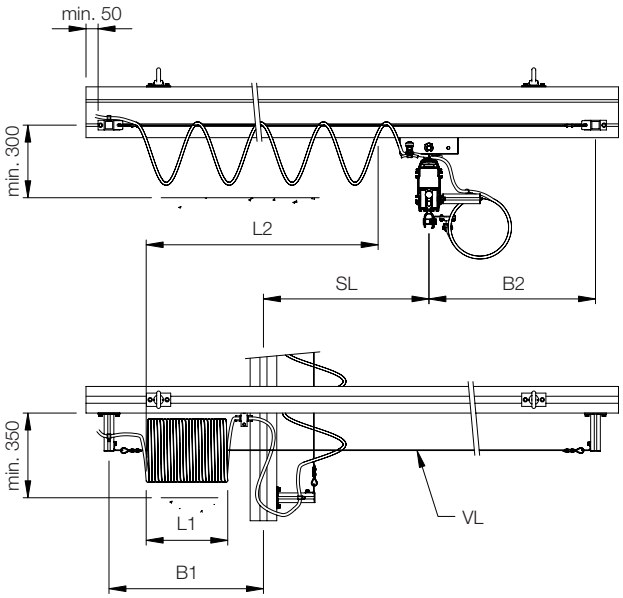
INFORMATION

- Distance plate for reducing play is mounted at F1
- Travelling limit type C is recommended
- Inverted trolley may be required at F1
- Double trolley may be required at F2
- Double trolley reduces overhang

Important! Note that the profile type and LB distance of the track must be dimensioned for the load Fb!

Media feed

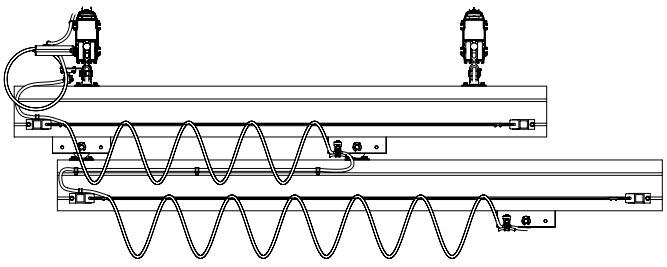
Wire brackets

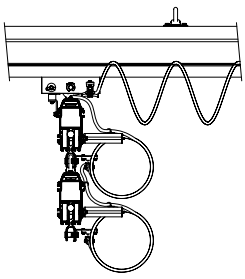


SL_{max} = L2
B1 = L1+200
L1 = SL/20
*L2 = L1*20*
VL = B1+SL+B2

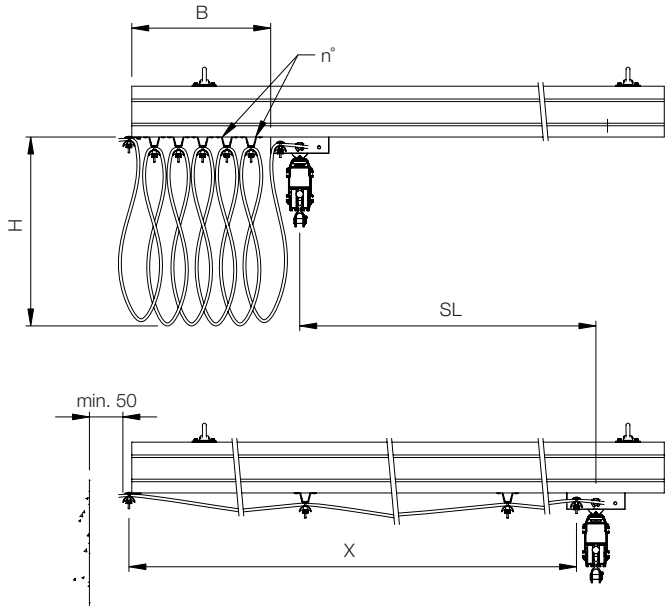
B2 = 300
VL_{max} = 10 000

SL = stroke length
B1 = buffer
B2 = buffer
L1 = hose compacted
L2 = hose extended
VL = wire length





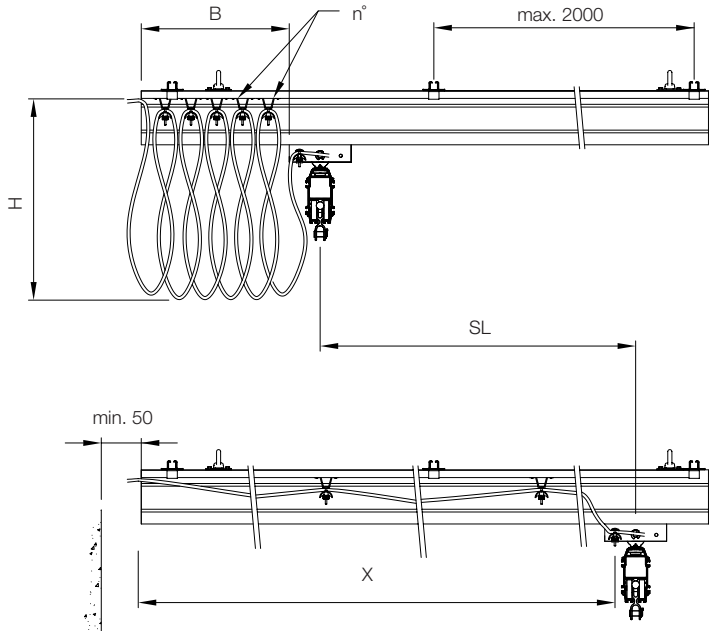
Cable trolley

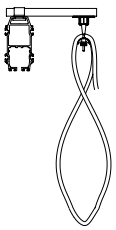


$X = SL_{max} * 1.2$
$n° = X/2H-1$
$B_{min} = n°(100)+100$
$H_{max} = 750$

X = minimum length cable/hose
SL = stroke length
H = hang down
B = buffer
n° = number of cable trolleys

Cable trolley in C-rail

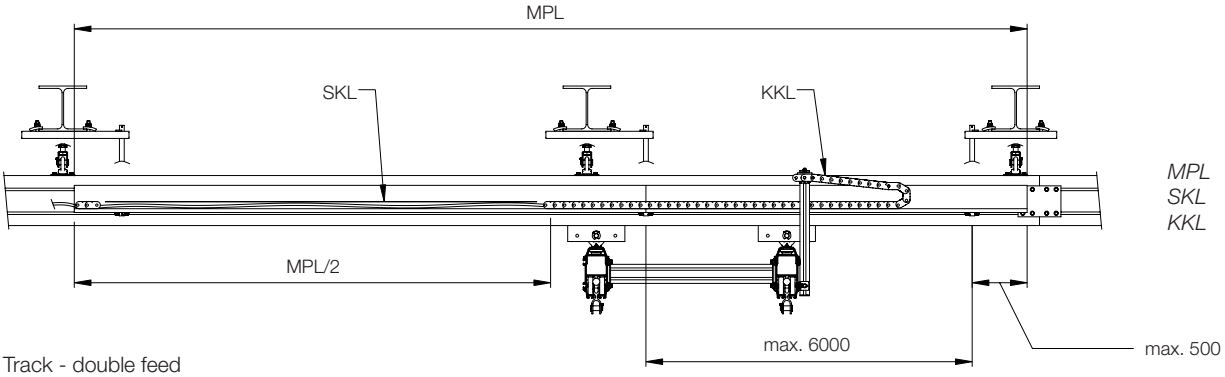




$X = SL_{max} * 1.2$
$n° = X/2H-1$
$B_{min} = n°(80)+100-H*1.5$
$H_{max} = 750$

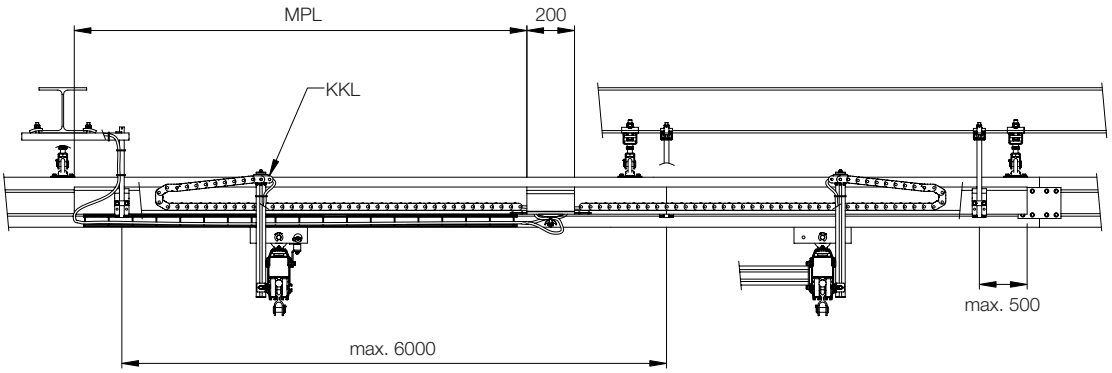
Media profile

Track - single feed



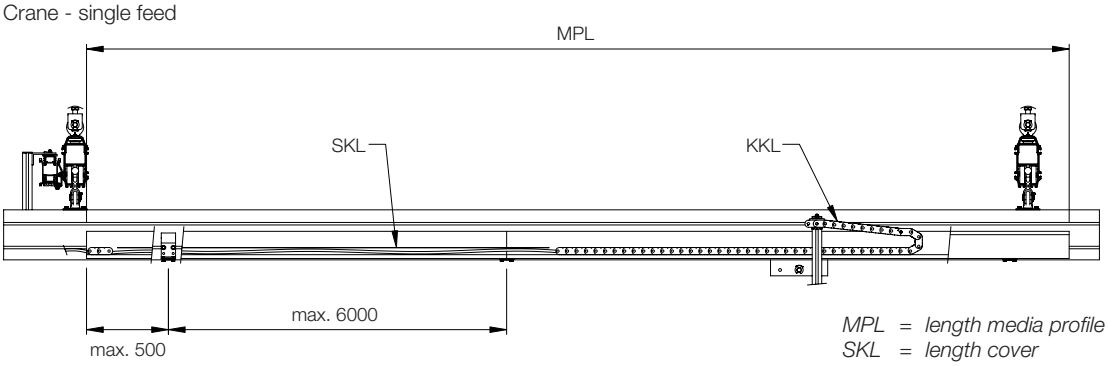
MPL = SL
SKL = MPL/2-200
KKL = SL/2+300

Track - double feed



MPL = SL/2
KKL = SL/2+300

Crane - single feed

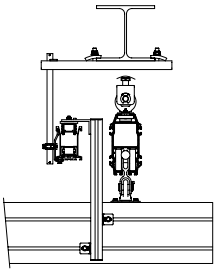


MPL = SL
SKL = MPL/2-200
KKL = SL/2+300

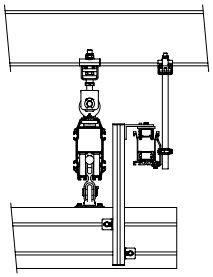
MPL = length media profile
SKL = length cover
KKL = length cable chain
SL = length of stroke

Media profile - example crossings

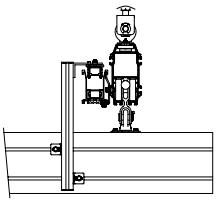
Longitudinal steel / crane



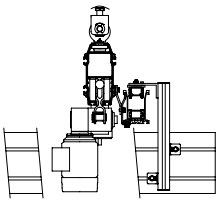
Lateral steel / crane



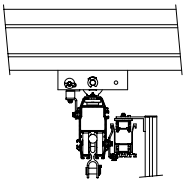
Track / crane



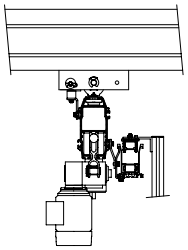
Track / crane
Powerdrive



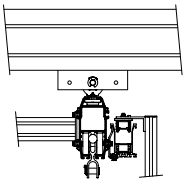
Single crane / frame



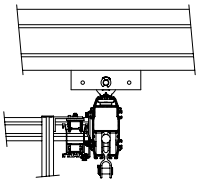
Single crane / frame
Powerdrive



Double crane / frame
Surface mounted



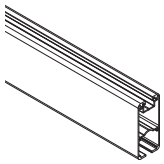
Double crane / frame
Inner mounted



Base assortment

Rail profiles

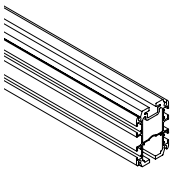
PHB *



1,6 kg/m
Ix: 56 cm⁴
Iy: 14 cm⁴
Wx: 11 cm³
Wy: 3 cm³

#	L[m]
742161*	1
742162*	2
742163*	3
742164*	4
742165*	5
742166*	6

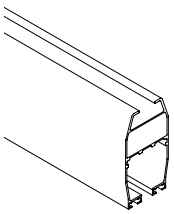
LHB



3,7 kg/m
Ix: 123 cm⁴
Iy: 51 cm⁴
Wx: 25 cm³
Wy: 17 cm³

#	L[m]
730192	1
730193	2
730194	3
730195	4
730196	5
730197	6
730198	7
737218	7,7

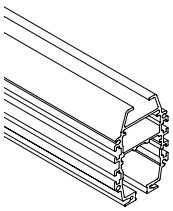
PHB1



4,0 kg/m
Ix: 325 cm⁴
Iy: 137 cm⁴
Wx: 43 cm³
Wy: 27 cm³

#	L[m]
737510	1
737511	2
737512	3
737513	4
737514	5
737515	6
738829	7

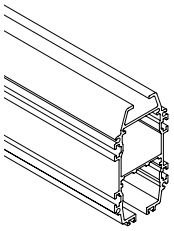
AHB1.1



7,8 kg/m
Ix: 558 cm⁴
Iy: 326 cm⁴
Wx: 74 cm³
Wy: 65 cm³

#	L[m]
735826	1
735827	2
735828	3
735829	4
735830	5
735831	6
735832	7
737215	7,7

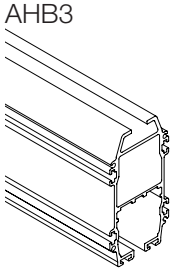
AHB2



8,6 kg/m
Ix: 1039 cm⁴
Iy: 384 cm⁴
Wx: 109 cm³
Wy: 77 cm³

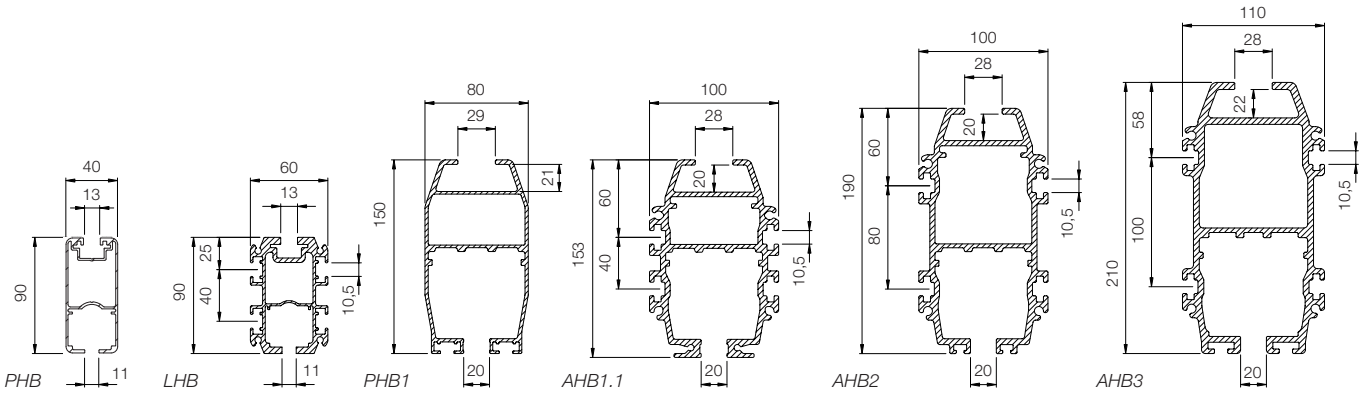
#	L[m]
730365	1
730366	2
730367	3
730368	4
730369	5
730370	6
730371	7
737216	7,7

AHB3



11,2 kg/m
Ix: 1767 cm⁴
Iy: 598 cm⁴
Wx: 168 cm³
Wy: 108 cm³

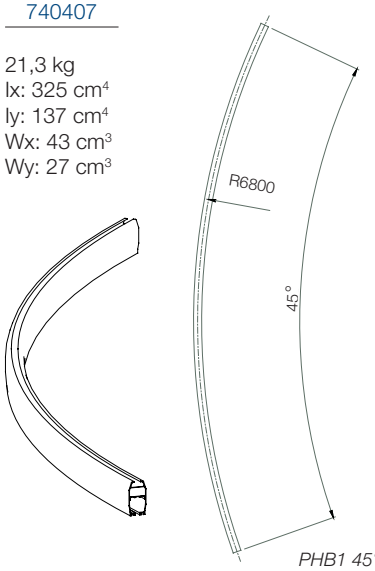
#	L[m]
730408	1
730409	2
730410	3
730411	4
730412	5
730413	6
730414	7
737217	7,7



PHB1 45°

#
740407

21,3 kg
Ix: 325 cm⁴
Iy: 137 cm⁴
Wx: 43 cm³
Wy: 27 cm³

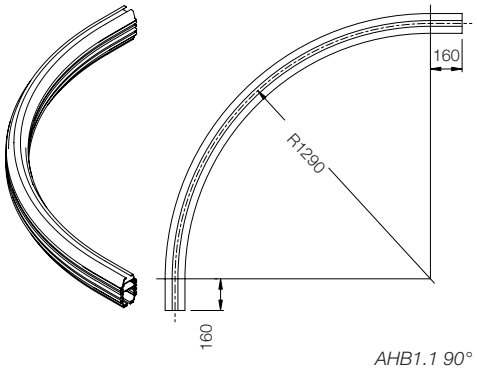


PHB1 45°

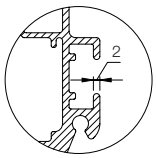
AHB1.1 90°

#
737275

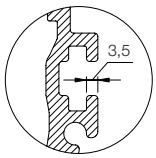
18,2 kg
Ix: 558 cm⁴
Iy: 326 cm⁴
Wx: 74 cm³
Wy: 65 cm³



AHB1.1 90°



LHB

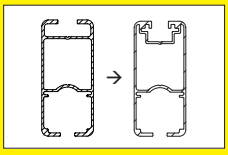


AHB1-3

*** Updated profile PHB**

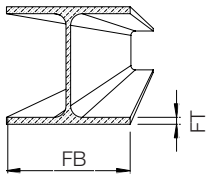
From approx. 2015-05-01 PHB is delivered in an updated version. The slot on top is then the same as on LHB.

When extending a previously installed track with PHB profile, please contact Movomech.



Suspensions

Note: Be aware of FB and FT_{max}!



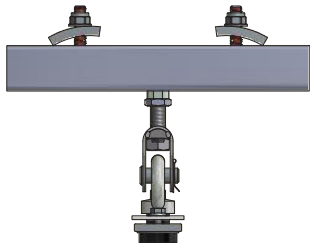
Dimensions

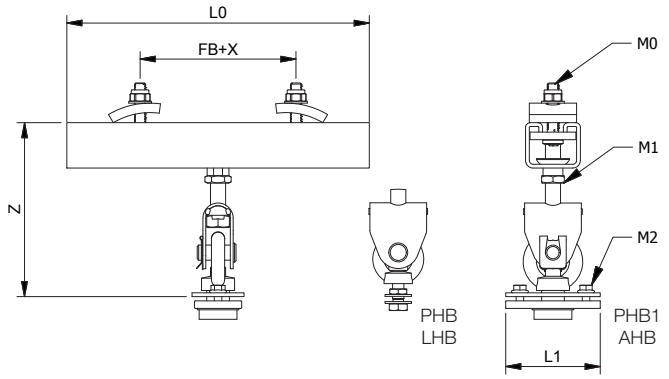
IPE	80	100	120	140	160	180	200	220	240	270	300	330
FB [mm]	46	55	64	73	82	91	100	110	120	135	150	160
FT [mm]	5,2	5,7	6,3	6,9	7,4	8	8,5	9,2	9,8	10,2	10,7	11,5

HEA	100	120	140	160	180	200	220	240
FB [mm]	100	120	140	160	180	200	220	240
FT [mm]	8	8	8,5	9	9,5	10	11	12

A Short

#		*m*[kg]	[kg]↓	*FB*	FT_{max}	*L0*	*L1*	*M0*	*M1*	*M2*	*X*	*Y*	*Z*
733203*	*PHB, LHB*	3,2	300	55-220	10	320	-	M12	M16	M12	15	58	184±12
733204*	*PHB, LHB*	3,9	300	55-300	10	420	-	M12	M16	M12	15	58	184±12
740402	*PHB, LHB*	3,2	300	55-220	12	320	-	M16	M16	M12	15	58	184±12
740403	*PHB, LHB*	3,9	300	55-300	12	420	-	M16	M16	M12	15	58	184±12
732765*	*PHB1, AHB1.1-2*	3,8	600	55-220	10	320	100	M12	M16	M8	15	58	183±12
733200*	*PHB1, AHB1.1-2*	4,5	600	55-300	10	420	100	M12	M16	M8	15	58	183±12
740404	*PHB1, AHB1.1-2*	3,8	600	55-220	12	320	100	M16	M16	M8	15	58	183±12
740405	*PHB1, AHB1.1-2*	4,5	600	55-300	12	420	100	M16	M16	M8	15	58	183±12
732244*	*AHB3*	5,8	1200	90-300	12	420	100	M16	M20	M8	20	70	200±10





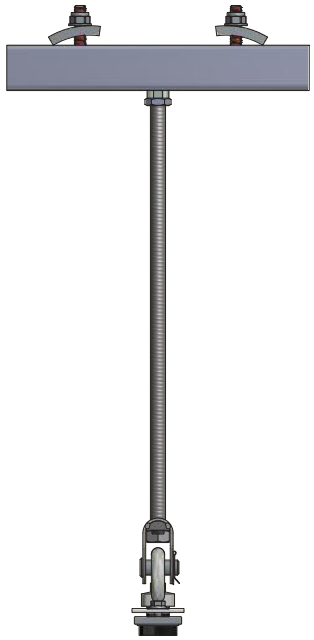
*** 2012: Revision of suspension type A**

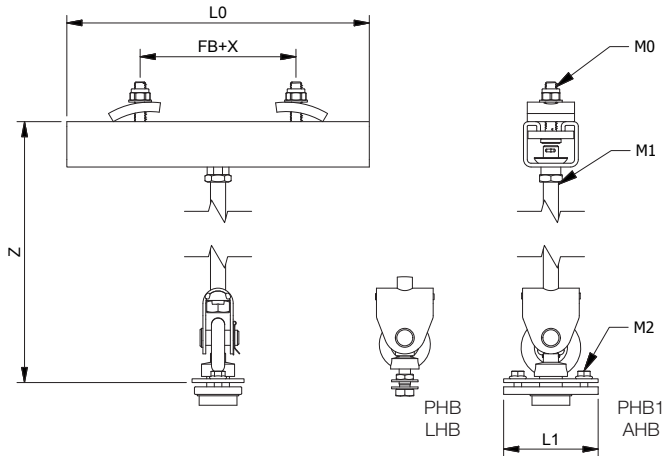
When extending a track installed before 2012 with suspensions type A, see additional information on page 18.

B Intermediate

State when ordering

#		*m*[kg]	[kg]↓	*FB*	FT_{max}	*L0*	*L1*	*M0*	*M1*	*M2*	*X*	*Y*	*Z*
730245	*PHB, LHB*	<5,0	300	55-220	10	320	-	M12	M16	M12	15	58	173-600±12
730246	*PHB, LHB*	<5,7	300	55-300	10	420	-	M12	M16	M12	15	58	173-600±12
740409	*PHB, LHB*	<5,0	300	55-220	12	320	-	M16	M16	M12	15	58	173-600±12
740410	*PHB, LHB*	<5,7	300	55-300	12	420	-	M16	M16	M12	15	58	173-600±12
730394	*PHB1, AHB1.1-2*	<5,0	600	55-220	10	320	100	M12	M16	M8	15	58	173-600±12
730395	*PHB1, AHB1.1-2*	<5,7	600	55-300	10	420	100	M12	M16	M8	15	58	173-600±12
740411	*PHB1, AHB1.1-2*	<5,0	600	55-220	12	320	100	M16	M16	M8	15	58	173-600±12
740412	*PHB1, AHB1.1-2*	<5,7	600	55-300	12	420	100	M16	M16	M8	15	58	173-600±12
730452	*AHB3*	<7,0	1200	90-300	12	420	100	M16	M20	M8	20	70	273-600±10

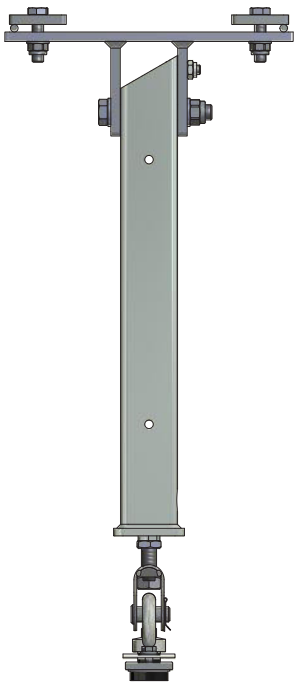


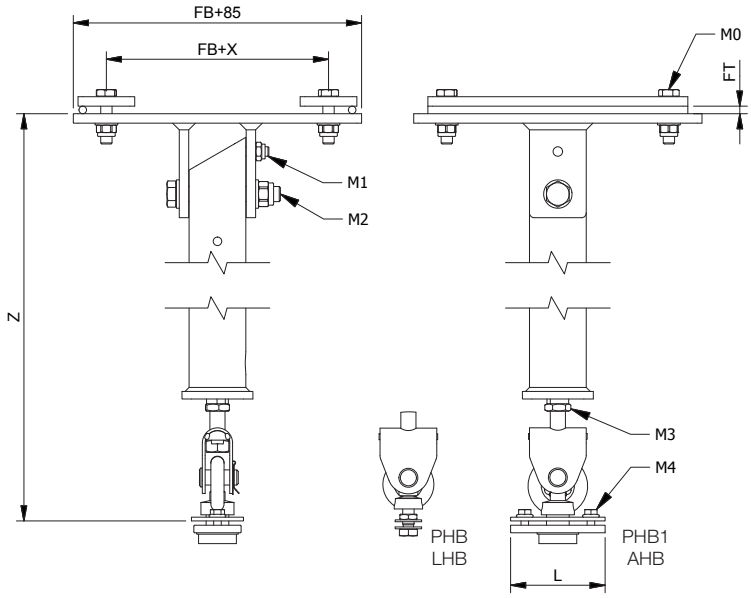


C Long

State when ordering

#		m[kg]	[kg]↓	FB	FT	L	M0	M1	M2	M3	M4	Z
730564	LHB	<20	300	82-220	<14	-	M12	M10	M16	M16	M12	500-2000±12
730565	LHB	<20	300	220-300	<14	-	M12	M10	M16	M16	M12	500-2000±12
730566	PHB1, AHB1.1-2	<20	600	82-220	<14	100	M12	M10	M16	M16	M8	500-2000±12
730567	PHB1, AHB1.1-2	<20	600	220-300	<14	100	M12	M10	M16	M16	M8	500-2000±12
730568	AHB3	<20	1200	100-220	<14	100	M12	M10	M20	M20	M8	500-2000±10
730569	AHB3	<20	1200	220-300	<14	100	M12	M10	M20	M20	M8	500-2000±10

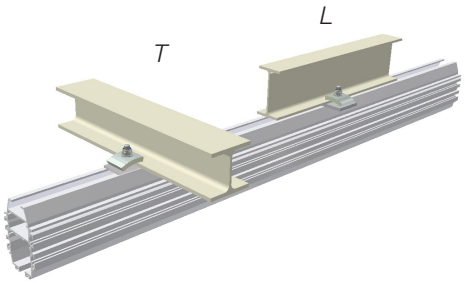




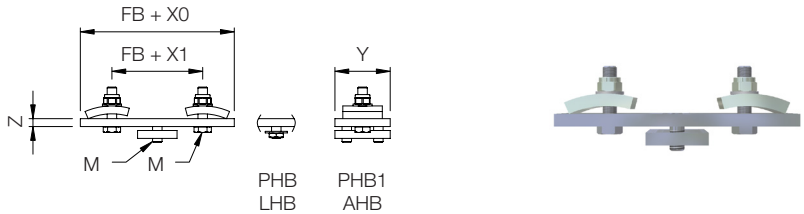
D Tight

State when ordering

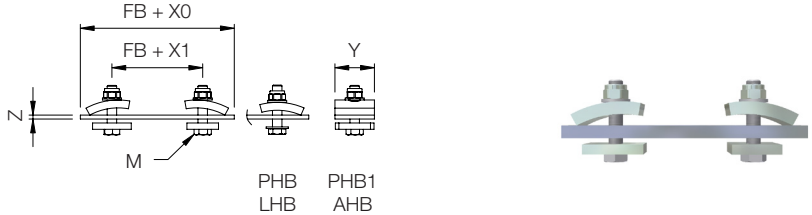
#			m[kg]	[kg]↓	FB	FT_{max}	M	X0	X1	Y	Z
730552	PHB, LHB	L	3,4	300	70-220	10	M12	95	15	120	12
730553	PHB, LHB	T	2,5	300	45-300	10	M12	95	15	50	5
730556	PHB1, AHB1.1-2	L	3,8	600	80-220	10	M12	95	15	120	12
730557	PHB1, AHB1.1-2	T	2,5	600	45-300	10	M12	95	15	50	5
730560	AHB3	L	5,0	1200	90-220	12	M16	120	20	130	15
730561	AHB3	T	2,5	1200	55-300	12	M16	120	20	70	6



(L)



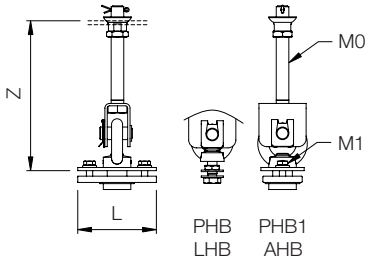
(T)

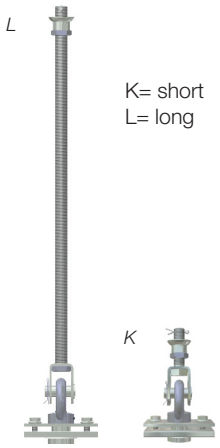


E With spherical nut

State when ordering

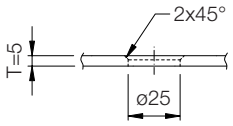
#			m[kg]	[kg]↓	T_{min}	L	M0	M1	Z
733829	PHB, LHB	K	1,0	300	5	-	M16	M12	138±12
732035	PHB, LHB	L	<2,0	300	5	-	M16	M12	130-560
733830	PHB1, AHB1.1-2	K	1,0	600	5	100	M16	M8	137±12
731734	PHB1, AHB1.1-2	L	<2,0	600	5	100	M16	M8	130-560
733831	AHB3	K	1,0	1200	8	100	M20	M8	161±10
732562	AHB3	L	<2,0	1200	8	100	M20	M8	170-560





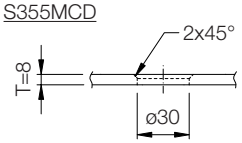
PHB, LHB, PHB1, AHB1-2

S355MCD



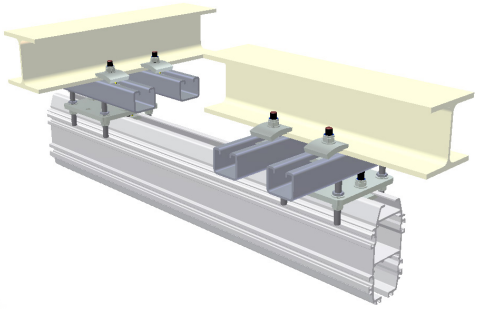
AHB3

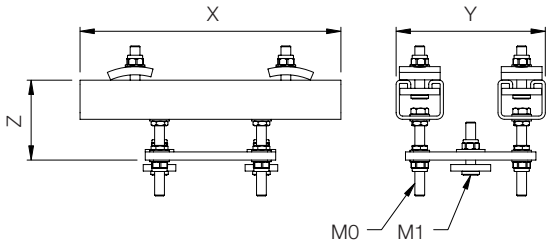
S355MCD



F Tight adjustable

#		m[kg]	[kg]↓	FB	FT_{max}	M0	M1	X	Y	Z
736979	PHB, LHB	6,6	300	45-220	10	M12	M12	320	153	96±22
736976	PHB, LHB	7,7	300	45-300	10	M12	M12	420	153	96±22
736981	PHB1, AHB1.1-2	8,0	600	45-220	10	M12	M12	320	183	98±22
736958	PHB1, AHB1.1-2	9,1	600	45-300	10	M12	M12	420	183	98±22
736953	AHB3	11,5	1200	60-300	12	M12	M16	420	194	103±22





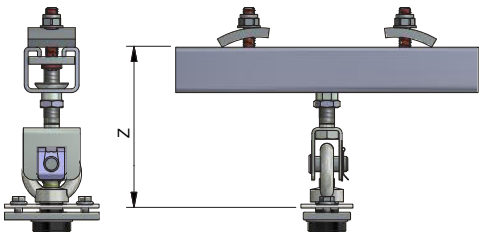
INFORMATION

When extending a previously installed track:

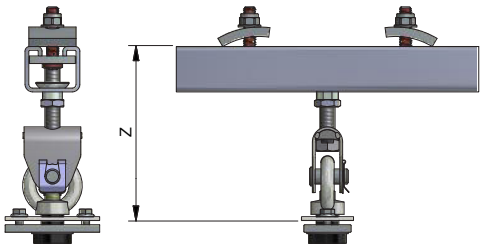
There is an earlier version of suspension type A installed before 2012 (LHB, AHB1.1-2) and before May 2015 (AHB3) that have a measure Z which is shorter than the current version, see picture.

When extending previously installed system with the old version, contact Movomech.

Z [mm]	PHB/LHB	PHB1/AHB1-2	AHB3
< 2012	162±12	161±12	182±12
2012-2015	184±12	183±12	182±12
< 2015-05	184±12	183±12	200±10



Old version

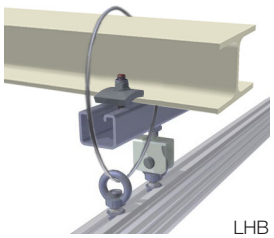


New version 2012 (PHB/LHB/AHB1-2) 2015 (AHB3)

Safety wire for suspensions

PHB, LHB

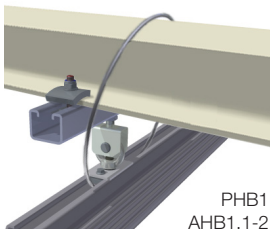
#	Qty.		ø
740571	L	Wire	5
740569	2	Wire joint	
730224	1	Crane girder suspension	



LHB

PHB1, AHB1.1-2

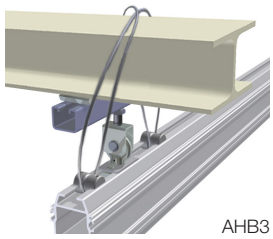
#	Qty.		ø
740858	L	Wire	7
740859	2	Wire joint	



PHB1
AHB1.1-2

AHB3

#	Qty.		ø
740858	L	Wire	7
740859	2	Wire joint	
740872	2	Wire spool	



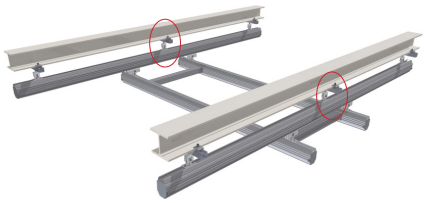
AHB3

INFORMATION

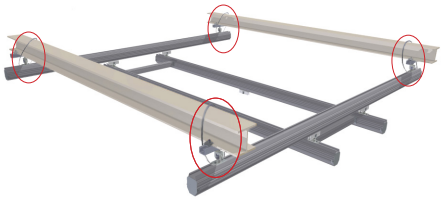
Safety wire is used to secure the crane girder suspension of the track to the beam above.

Usage is recommended when a track is mounted with only two suspensions, as for across-mounted steel where a third suspension cannot be installed, and in the case of critical load.

The wire length L is tailored to the situation in hand.



Along-mounted steel, a third suspention per track mounted



Across-mounted steel, safety wire for suspensions mounted

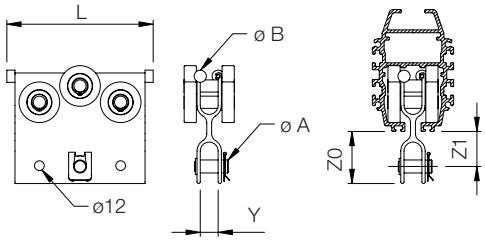
Trolleys

INFORMATION
[1] Article with extended delivery time

A Single trolley

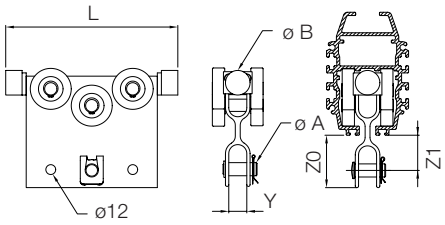
#		m[kg]	[kg]↓	[kg]↑	L	Y	ø A	ø B	Z0	Z1
730200	PHB/LHB	0,5	63/125	32/63	140	22	12	15	64/61	42/39
730323	PHB1/AHB1.1/AHB2	1,2	125/250/250	63/125/125	180	22	16	15	64/61/64	43/40/43
733175[1]	PHB1/AHB1.1/AHB2 *	1,2	125/250/250	63/125/125	180	22	16	15	64/61/64	43/40/43
730364	PHB1/AHB1.1/AHB2	1,2	125/250/250	63/125/125	210	22	16	30	64/61/64	43/40/43
730442	AHB3	2,8	500	250	280	28	20	30	68	46
733541[1]	AHB3*	2,8	500	250	280	28	20	30	68	46

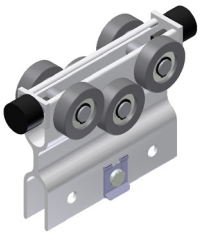
* Without play



B Inverted trolley

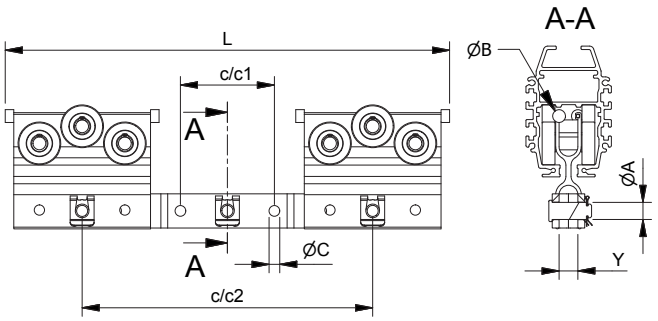
#		m[kg]	[kg]↓	[kg]↑	L	Y	ø A	ø B	Z0	Z1
733655[1]	PHB/LHB	0,5	32/63	63/125	140	22	12	15	64/61	42/39
732155[1]	PHB1/AHB1.1/AHB2	1,2	63/125/125	125/250/250	210	22	16	30	63/60/63	42/39/42
735823[1]	AHB3	2,8	250	500	280	28	20	30	68	46





C Double trolley

#		m[kg]	[kg]↓	[kg]↑	L	Y	ø A	ø B	ø C	c/c1	c/c2	Z0	Z1	Mv[Nm]
743048	LHB[1]	2,7	250	125	480	22	20	15	12,5	110	340	61	41	-
743039	PHB1/AHB1.1/AHB2	3,8	250/500/500	125/250/250	520	22	20	15	12,5	110	340	64/61/64	43/40/43	-
743040	PHB1/AHB1.1/AHB2[1] *	4,5	250/500/500	125/250/250	637	22	20	30	12,5	110	420	61	40	55
743041	AHB3[1]	6,6	1000	500	700	22	20	30	12,5	110	420	67	43	-

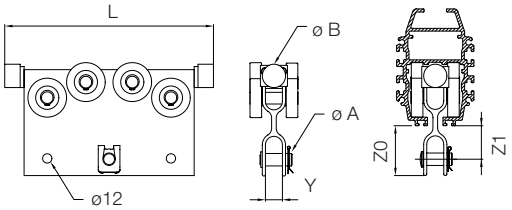


743040

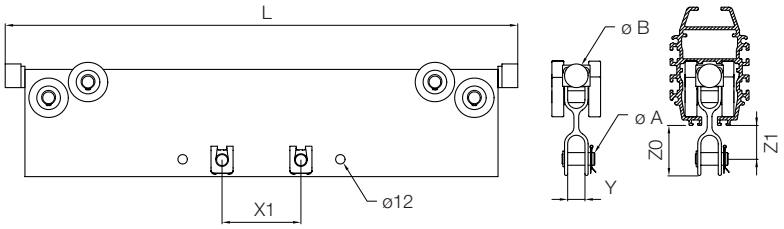
743048
743039
743041

D Long trolley

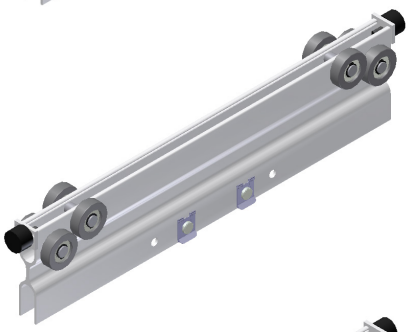
#		m[kg]	[kg]↓	[kg]↑	L	Y	ø A	ø B	Z0	Z1	X1
736581[1]	AHB1.1/AHB2	1,6	250	250	270	22	16	30	61/64	40/43	-
730780[1]	AHB1.1/AHB2	3,2	250	250	650	22	16	30	61/64	40/43	100
730703[1]	AHB1.1/AHB2	3,4	350	250	650	22	16	30	61/64	40/43	440
734940[1]	AHB3	3,3	500	500	380	28	20	30	65	43	-

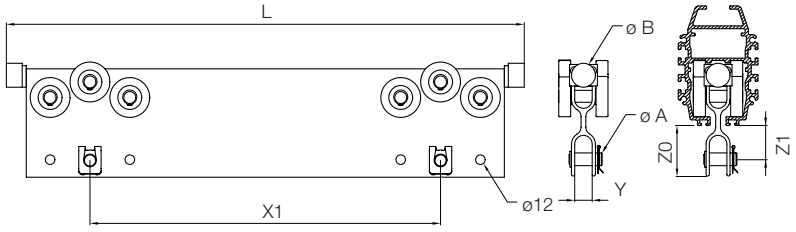


736581
734940

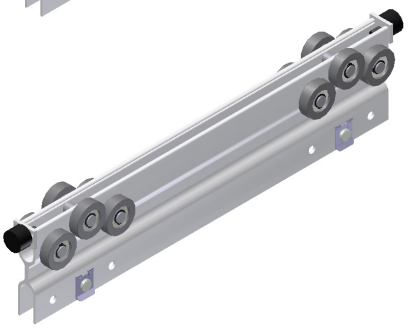


730780





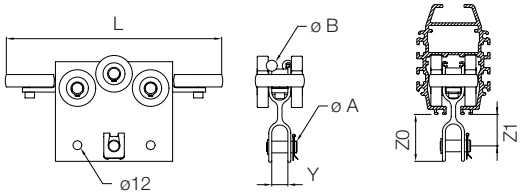
730703



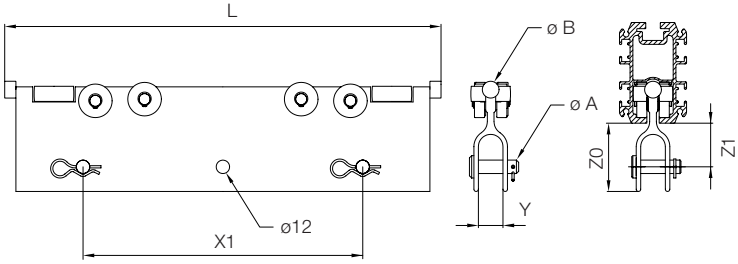
E Trolley with nose wheel

#		m[kg]	[kg]↓	[kg]↑	Mv[Nm]	L	Y	ø A	ø B	Z0	Z1	X1
730582[1]	LHB	1,3	125	63	40	390	22	12	15	61	39	250
730583[1]	LHB	1,7	125	63	70	590	22	12	15	61	39	250
737285	AHB1.1/AHB2	1,4	250	125	60	294	22	16	-	61/64	40/43	-
737284	PHB1/AHB1.1/AHB2 *	1,4	125/250/250	63/125/125	30/60/60	294	22	16	-	64/61/64	43/40/43	-
737522[1]	AHB1.1/AHB2 **	1,4	125	250	60	294	22	16	-	61/64	40/43	-
737199[1]	AHB3	3,0	500	250	85	468	28	20	30	67	43	-

* For curve
** Inverted



737285
737284
737522
737199



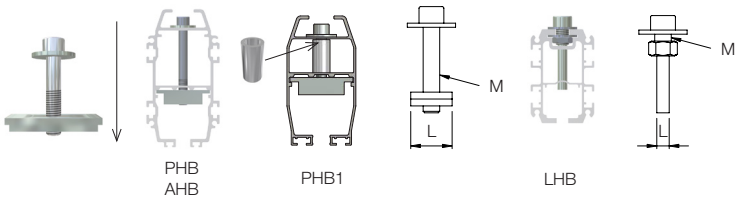
730582
730583

End stoppers

Note: Drilled-through end stoppers must always be mounted in track and crane!

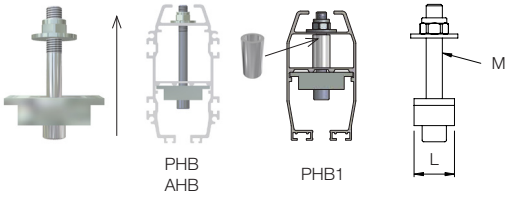
A

#		m[kg]	L	M
742168	PHB	0,2	20	M8
730220	LHB	0,1	9	M12
737605	PHB1	0,25	30	M12
730334	AHB1.1	0,25	30	M12
730377	AHB2	0,3	30	M12
730421	AHB3	0,5	30	M12



B

#		m[kg]	L	M
737606	PHB1	0,3	30	M12
730639	AHB1.1	0,3	30	M12
730640	AHB2	0,35	30	M12
730641	AHB3	0,5	30	M12

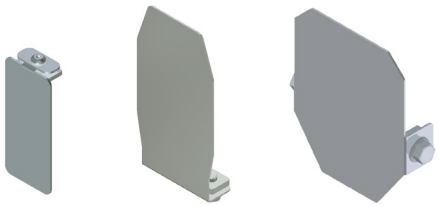


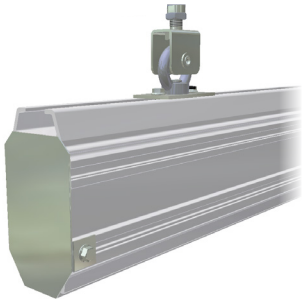
INFORMATION

A: Mounted from above.
B: Mounted from below.
(In compact mounting, take note that the nut can only be reached from the end.)

End covers

#		m[kg]
736699	PHB	0,15
730211	LHB	0,15
737569	PHB1	0,2
730330	AHB1.1	0,2
730373	AHB2	0,25
730416	AHB3	0,3

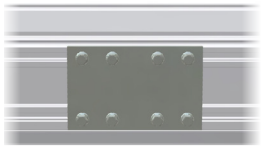


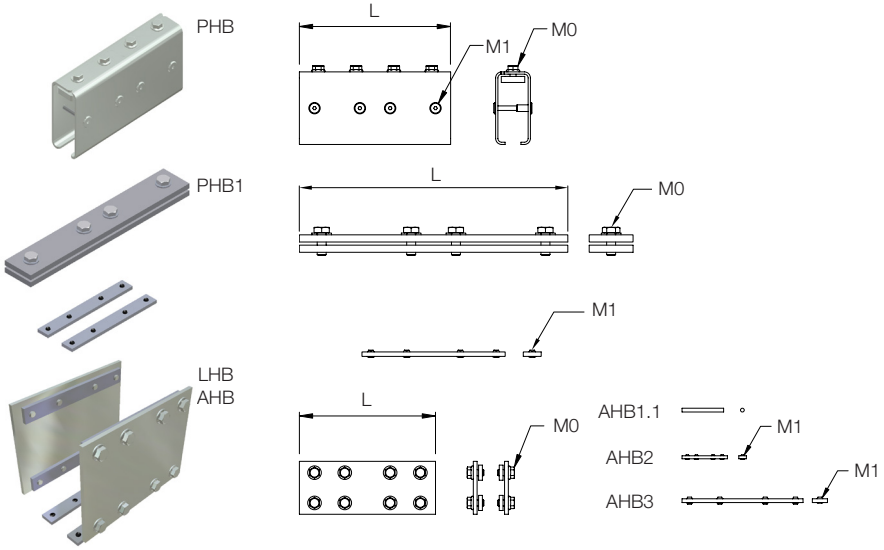


Joint sets

#		m[kg]	L	M0	M1
742167*	PHB	1,6	200	M8	M6
730212	LHB	1,7	180	M8x14	-
737609	PHB1	1,7	300	M10x25	M8
739999**	PHB1	1,7	300	M10x25	M8
735840	AHB1.1	1,7	180	M8x14	-
730375	AHB2	2,5	180	M8x16	M6
730418	AHB3	2,5	180	M8x16	M8

* *When combining a profile with earlier version of PHB, please contact Movomech.*
** *For curve*





INFORMATION

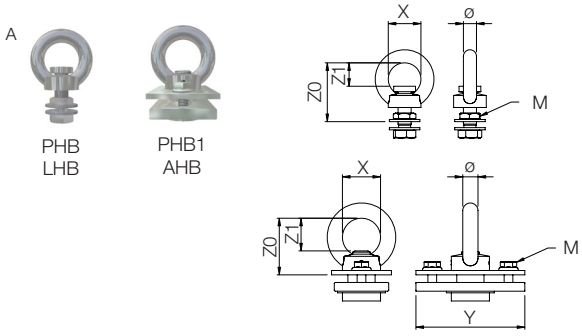
Maximum 1 joint may be installed within a track span LB.

In cranes, joints may only be used for triple track systems.

Crane girder suspensions

A

#		m[kg]	[kg]↓	M	X	Y	Z0	Z1	ø
730224	*PHB, LHB*	0,25	300	M12	30	-	55	20	12
730379	*PHB1, AHB1.1-2*	0,85	600	M8	35	100	55	23	14
730424	*AHB3*	1,2	1200	M8	40	100	62	35	16

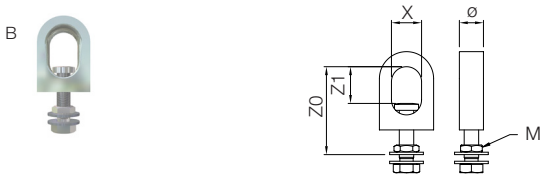


B

#		m[kg]	[kg]↓	M	X	Y	Z0	Z1	ø
730540	*PHB, LHB*	0,3	300	M12	25	-	69	25	20

INFORMATION

Type B fits AHB3 trolleys, as well as various trolleys with pin ø20 (e.g. ABUS and DEMAG).

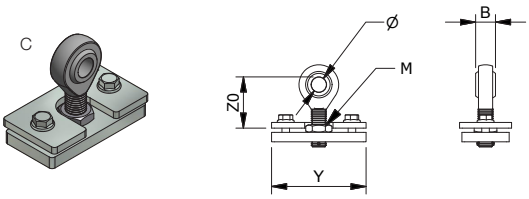


C

#		m[kg]	[kg]↓	M	ø	Y	Z0	B
742258	*AHB1.1-2*	0,8	600	M16	16	100	54	21

INFORMATION

Type C är is gap-free and eliminates the need for Distance for telescope crane, page 24.

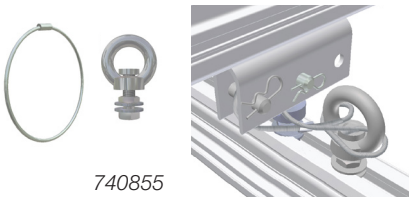


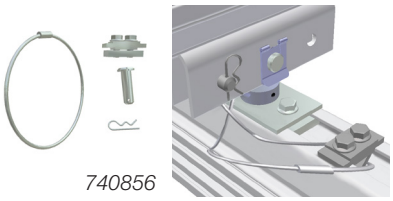
Safety wire for cranes

A Standard

#		ø
740852	*PHB1, AHB1.1-2*	145

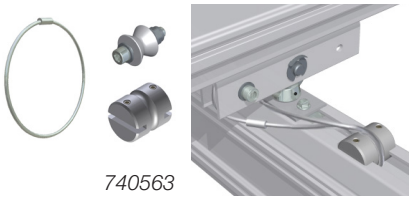

740852

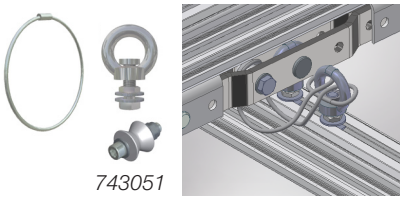

740855


740856

B Post-mountable

#		ø
740855	*PHB, LHB*	145
740856	*PHB1, AHB1.1-2*	145
740563	*AHB3*	165


740563


743051

C For double trolleys

#		ø	n
743051	*LHB*	450	1
743052	*AHB1.1-2*	450	1
743056	*AHB3*	450	2


743052

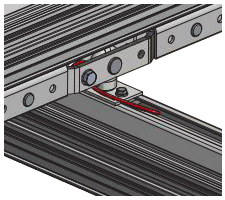
2x

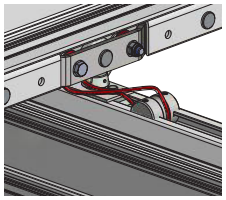

743056

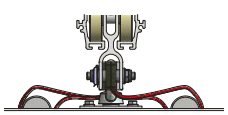
INFORMATION

Safety wires A, B and C are used to secure the crane suspension to the trolley. Movomech recommends usage for single cranes.

A: Mounted with crane girder suspension
B: Delivered with separate suspension
C: Mounted with double trolleys
(n=number of loops included)







Distances for double cranes

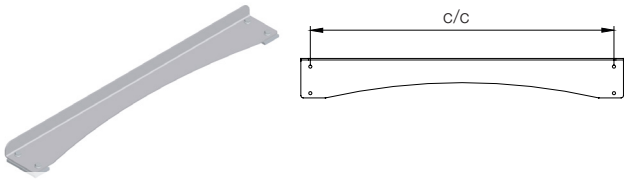
c/c 800

#		m[kg]
741673	*LHB*	2,6
740525	*PHB1*	3,5
741669	*AHB1.1, AHB2*	5,2
741671	*AHB3*	5,2

(Mounted on top of the profiles.)

c/c 1000

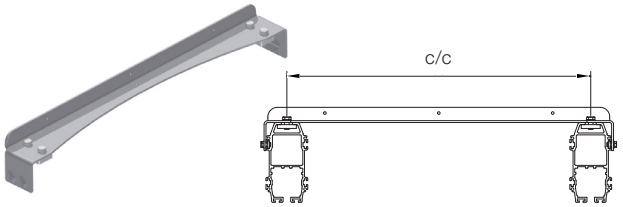
#		m[kg]
741674	*LHB*	3,0
741670	*AHB1.1, AHB2*	5,9
741672	*AHB3*	6,0



INFORMATION

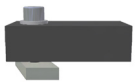
Used in pairs as distances between the profiles of double cranes. CC: centre distance between the crane profiles.

Note: sold by the piece!



Distance plates for telescopic cranes

#		m[kg]
730256	*PHB, LHB*	0,5
730349	*PHB1, AHB1.1-2*	0,5
730461	*AHB3*	0,5



INFORMATION

Removes the gap between profile and trolley, for example on a telescopic crane.

Contact Movomech for more information.

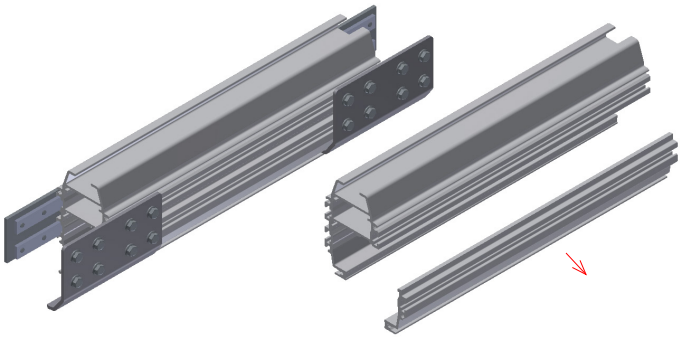
Maintenance hatches

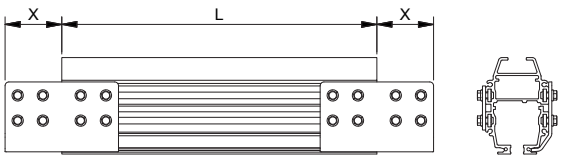
#		m[kg]	L[mm]	X[mm]
742172	*AHB1.1*	7,5	500	90
742418	*AHB2*	9,0	500	90

INFORMATION

Maintenance hatches are used primarily on long tracks, and enable the introduction/removal of trolleys and accessories in the middle of the track instead of from the end.

At least one suspension must be mounted above the maintenance hatch.





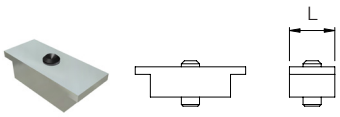
Travel limits

NOTE! Travel limits do not replace drilled-through end stoppers!

SL Stroke [mm]
E_{max} Max energy consumption per cycle [Nm]
E_{max}/hr Max energy consumption per hour [Nm]
v_{max} Max impact speed [m/s]
F_{max} Max impact force [N]

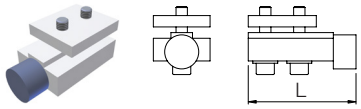
A

#		m[kg]	L
736834	PHB	0,1	20
730354	PHB1, AHB1.1-2	0,2	30
730465	AHB3	0,2	30



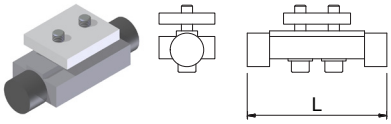
B

#		m[kg]	L
730542	PHB, LHB	0,3	80
730545	PHB1, AHB	0,3	95



B double

#		m[kg]	L
742263	PHB, LHB	0,3	115
737618	PHB1, AHB	0,8	125



C

#		m [kg]	L [mm]	SL [mm]	E_{max} [Nm]	E_{max}/hr [Nm/hr]	v_{max} [m/s]	F_{max} [N]
740220	PHB, LHB	1,1	157	25	80	60 000	1,0	15 000
740217	PHB1, AHB1.1-2	1,2	157	25	80	60 000	1,0	15 000
740218	AHB3	1,2	157	25	80	60 000	1,0	15 000

C+

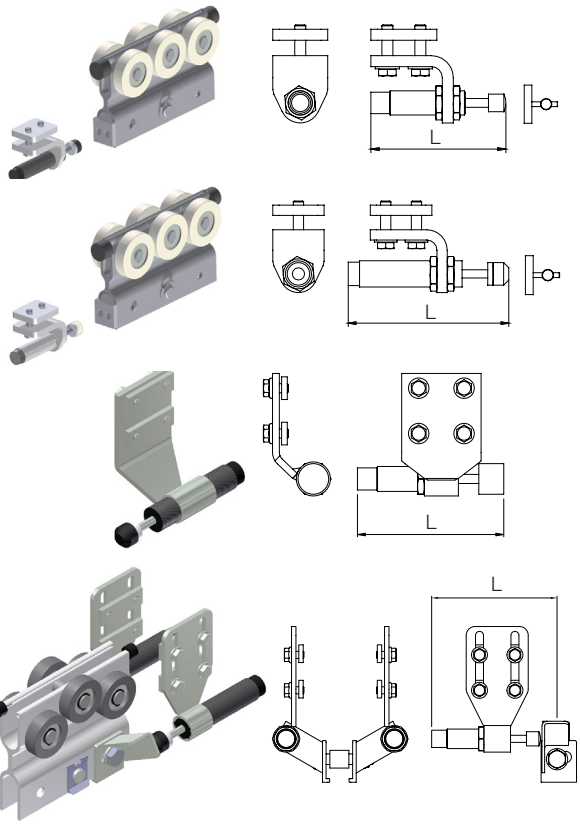
#		m [kg]	L [mm]	SL [mm]	E_{max} [Nm]	E_{max}/hr [Nm/hr]	v_{max} [m/s]	F_{max} [N]
739995	PHB1, AHB1.1-2	0,8	123	20	30	64 000	3,0	2 000
739996	AHB3	0,8	123	20	30	64 000	3,0	2 000

C-M

#		m [kg]	L [mm]	SL [mm]	E_{max} [Nm]	E_{max}/hr [Nm/hr]	v_{max} [m/s]	F_{max} [N]
737564	LHB	0,7	157	25	80	60 000	1,0	15 000
737565	AHB1.1	0,9	157	25	80	60 000	1,0	15 000
737566	AHB2	1,0	157	25	80	60 000	1,0	15 000
737567	AHB3	1,1	157	25	80	60 000	1,0	15 000

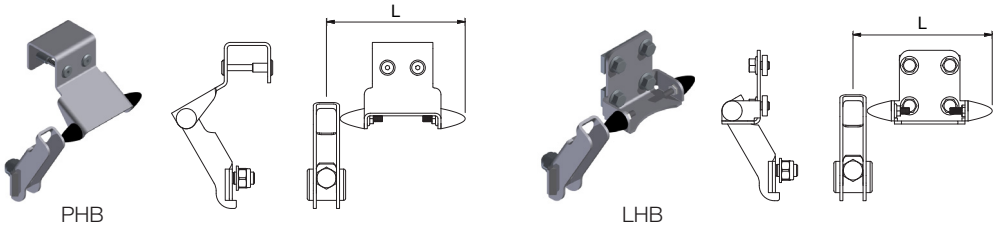
D

#		m [kg]	L [mm]	SL [mm]	E_{max} [Nm]	E_{max}/hr [Nm/hr]	v_{max} [m/s]	F_{max} [N]
736603	LHB, AHB1.1	1,7	174	25	160	120 000	1,0	30 000
736605	AHB2	2,5	174	25	160	120 000	1,0	30 000
736607	AHB3	2,5	184	25	160	120 000	1,0	30 000



E

#		m[kg]	L
741692	PHB	0,3	115
741684	LHB	0,8	125



PHB LHB

INFORMATION

A: Mechanical stop, mounted from above. Used e.g. to protect cable trolleys from impact, and in combination with type C and D.

B: Rubber bumper. NOTE! Cable trolleys cannot pass! Used e.g. for work that rarely reaches the end position of the work area, and for little movement stress in the system.

Type C or D must be used when there is large movement stress on the system, and with work that often reaches the end position of the work area.

C/C+: Hydraulically damped. NOTE! Cable trolleys cannot pass!

C-M: Hydraulically damped. NOTE! Cable trolleys cannot pass! For damping of rear end of Mechchain Pro.

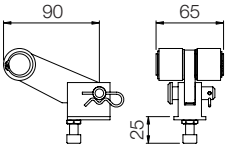
D: Hydraulically damped.

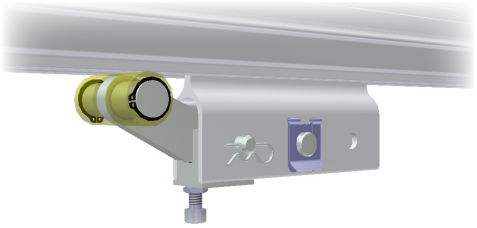
Hydraulic dampers must not reach end of stroke at impact. To prevent this, dampers of type C or D should be mounted in combination with type A.

E: Mechanical stop. Used e.g. to protect cable trolleys from impact.

Friction brakes

#		m[kg]
736176	PHB, LHB, PHB1, AHB1.1-2	<1
736177	AHB3	<1



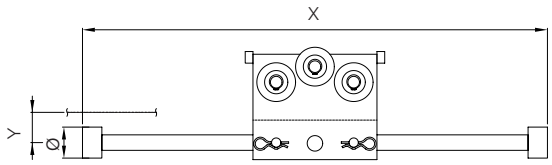


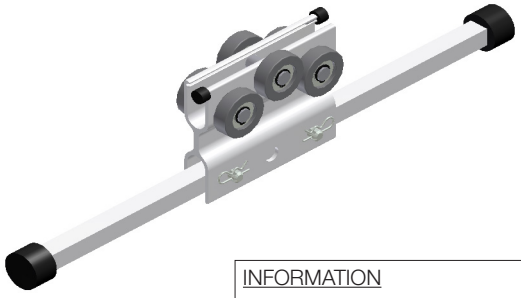
INFORMATION

Used to counteract self-rolling in the system.

Distance bars

#		m[kg]	X	Y	ø
738200	PHB, LHB	1,2	600	39	40
738203	PHB, LHB	1,6	1000	39	40
738201	PHB1, AHB1.1-2	1,9	600	39	40
738204	PHB1, AHB1.1-2	2,3	1000	39	40
738202	AHB3	3,9	600	43	50
738205	AHB3	4,5	1000	43	50





INFORMATION

Stand-alone unit used in track to ensure a minimum distance between cranes.

NOTE! Sold by the piece!

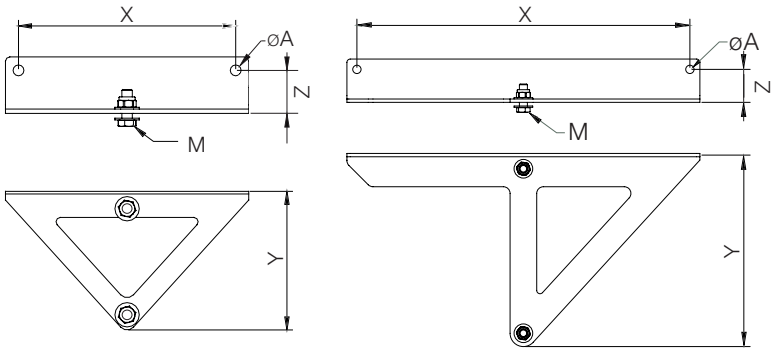
Triangulary stays for triple track

#		m[kg]	LT	ø A	M	X	Y	Z
740434	LHB	1,3	≤ 2000	12,5	M12	250	157	49,5
740435	LHB	3,0	2001 ≤ 4000	12,5	M12	500	288	49,5
740436	LHB	4,5	4001 ≤ 6000	12,5	M12	750	418	49,5
740437	LHB	6,0	6001 ≤ 8000	12,5	M12	1000	538	49,5
740438	PHB1, AHB1.1-2	6,5	≤ 4000	16,5	M12	500	303	47
740439	PHB1, AHB1.1-2	9,3	4001 ≤ 6000	16,5	M12	750	421	47
740440	PHB1, AHB1.1-2	12,9	6001 ≤ 8000	16,5	M12	1000	552	47
740441	PHB1, AHB1.1-2	16,0	8001 ≤ 10000	16,5	M12	1250	667	47
740442	AHB3	8,3	≤ 4000	20,5	M16	500	310	52
740443	AHB3	13,6	4001 ≤ 6000	20,5	M16	750	448	52
740444	AHB3	18,3	6001 ≤ 8000	20,5	M16	1000	573	52
740445	AHB3	23,1	8001 ≤ 10000	20,5	M16	1250	696	52

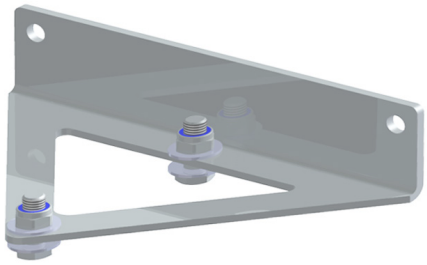
INFORMATION

Used in triple tracks. The design may vary.

NOTE! Sold by the piece!



740434, 740438, 740442



Space saving modules

INFORMATION

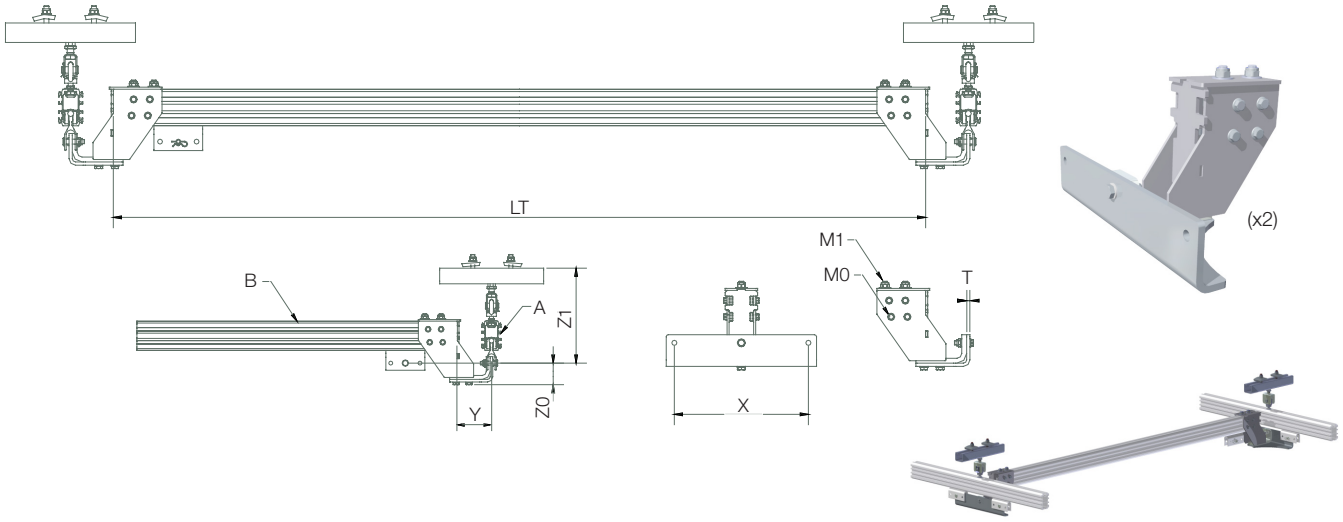
Used to minimize the build-height of cranes.
Note! Sold in pairs!

For other combinations, contact Movomech.

A Single crane

#		m[kg]	LT	ø	M0	M1	T	X	Y	Z0
740156	LHB	13	250 ≤ 3000	12,5	M8	M12	8	330	105	67
740158	LHB	22	3001 ≤ 6000	12,5	M8	M12	8	690	105	67
740160	LHB	27	6001 ≤ 7700	12,5	M8	M12	8	930	105	67
740124	AHB1.1-2	17	250 ≤ 3000	16,5	M8	M12	8	420	111	66
740127	AHB1.1-2	24	3001 ≤ 6000	16,5	M8	M12	8	680	111	66
740129	AHB1.1-2	30	6001 ≤ 7700	16,5	M8	M12	8	920	111	66
740138	AHB3	20	250 ≤ 3000	20,5	M8	M12	8	500	147	67
740140	AHB3	24	3001 ≤ 6000	20,5	M8	M12	8	670	147	67
740142	AHB3	30	6001 ≤ 7700	20,5	M8	M12	8	910	147	67

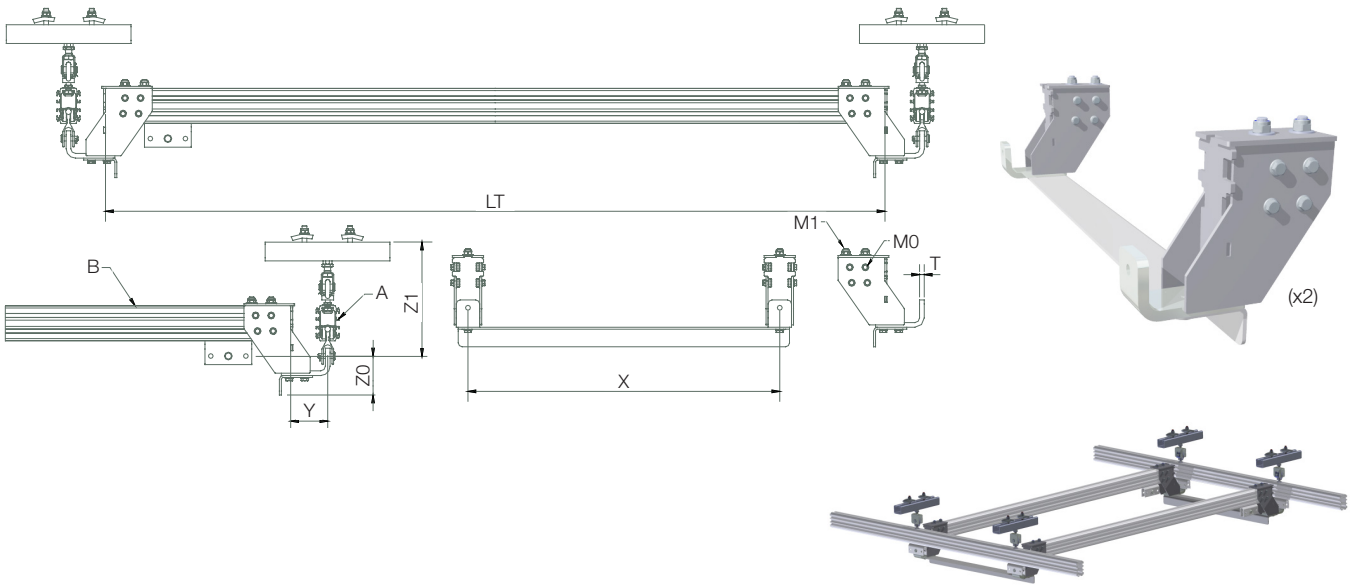
A	LHB	AHB1.1	AHB1.1	AHB2	AHB2	AHB3
B	LHB	AHB1.1	AHB2	AHB1.1	AHB2	AHB3
Z1	313	313	352	352	392	453



B Double crane

#		m[kg]	LT	ø	M0	M1	T	X	Y	Z0
740146	LHB	23	250 ≤ 7700	12,5	M8	M12	12	800	95	100
740155	LHB	25	250 ≤ 7700	12,5	M8	M12	12	1000	95	100
740114	AHB1.1-2	27	250 ≤ 7700	16,5	M8	M12	12	800	101	100
740120	AHB1.1-2	29	250 ≤ 7700	16,5	M8	M12	12	1000	101	100
740130	AHB3	29	250 ≤ 7700	20,5	M8	M12	12	800	101	100
740137	AHB3	31	250 ≤ 7700	20,5	M8	M12	12	1000	137	100

A	LHB	AHB1.1	AHB1.1	AHB2	AHB2	AHB3
B	LHB	AHB1.1	AHB2	AHB1.1	AHB2	AHB3
Z1	313	313	352	352	392	453



Accessories

Parking brakes

INFORMATION
[1] Article with extended delivery time

A

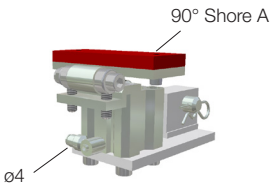
#		m[kg]	F_1[N]	F_2[N]
730259	*PHB, LHB, PHB1, AHB1.1, AHB2*	0,8	+ 250 / -150	± 500
730463	*AHB3*	0,8	+ 250 / -150	± 500

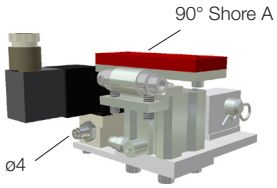
B

#		m[kg]	F_1[N]	F_2[N]
730260	*PHB, LHB, PHB1, AHB1.1, AHB2*	1	+ 250 / -150	± 500
730464	*AHB3*	1	+ 250 / -150	± 500

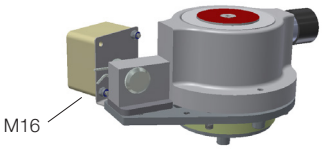
C

#		m[kg]	F[N]
740163	*AHB1.1*	2,7	± 300
738940	*AHB2*	2,7	± 300
740165	*AHB3*	2,7	± 300





24 VDC
4,8 W
IP65



230 VAC
70 W
IP54

INFORMATION

A: Pneumatic (without valve), plug-in coupling for compressed air hose
B: Pneumatic (with solenoid valve incl. connector), plug-in coupling for compressed air hose
C: Electromagnetic

F_1: Braking force for single brake at 6 bar.
F_2: Braking force for dual oppositely-mounted brakes at 6 bar.
F: Braking force

NOTE: Control equipment (e.g. hose, control valves, knobs) is not included!

NOTE: Electrical installation should be performed under the supervision of a qualified electrician!

Air preparation units

#		Filter capacity [µ]	Max. pressure [bar]	Flow speed [l_n/min]	Working temperature [°C]
735349[1]	*A*	5	10	1700	5-60
735350	*B*	0,3	10	350	5-60
743057	*C*	0,01	10	240	5-60

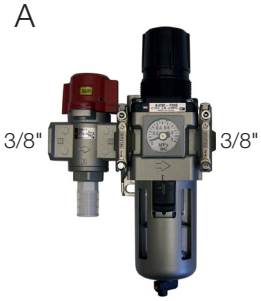
Filter

#	Filter capacity [µ]
730671	5
735351	0,3
742427	0,01

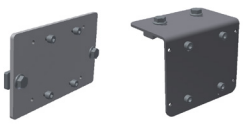
Mounting plate

#	
736168	LHB, AHB
740831	PHB1

A

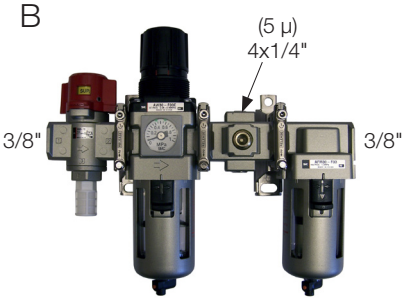


5 µ



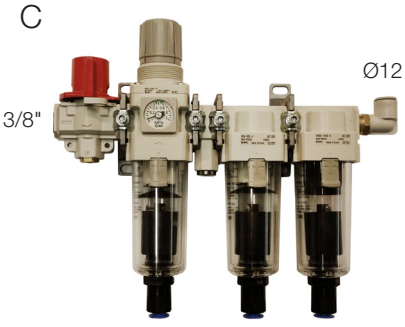
736168 *740831*

B



5 µ 0,3 µ

C



5 µ 5 µ 0,01 µ

INFORMATION

A: Ventilating valve, pressure regulator with pressure gauge and filter (manual draining)

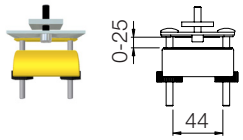
B: Ventilating valve, pressure regulator with pressure gauge and filter (manual draining), distributor block (4 outlets), microfilter
Used in sensitive applications, e.g., air balancing.

End fix

Max. 10 kg

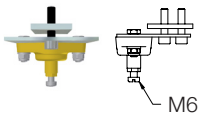
A Saddle

#		m[kg]
730485	PHB, LHB	0,2
730488	PHB1, AHB	0,2



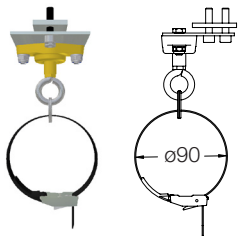
B* Ball joint

#		m[kg]
730491	PHB, LHB	0,2
730492	PHB1, AHB	0,2



C Strap

#		m[kg]
730494	PHB, LHB	0,2
730496	PHB1, AHB	0,2

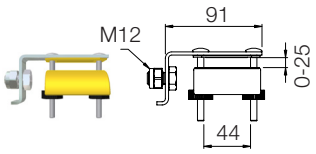


Strain relief

Max. 10 kg

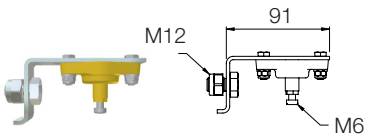
A Saddle

#		m[kg]
730482	PHB, LHB, PHB1, AHB	0,2



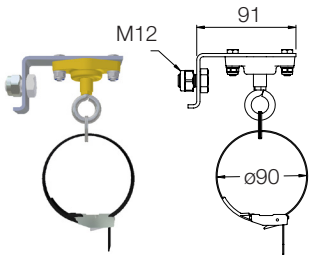
B* Ball joint

#		m[kg]
730493	PHB, LHB, PHB1, AHB	0,2



C Strap

#		m[kg]
730495	PHB, LHB, PHB1, AHB	0,2

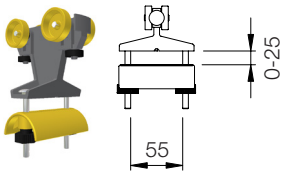


Cable trolleys

Max. 10 kg

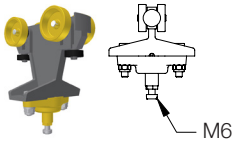
A Saddle

#		m[kg]
730467	PHB, LHB	0,2
730470	PHB1, AHB	0,2



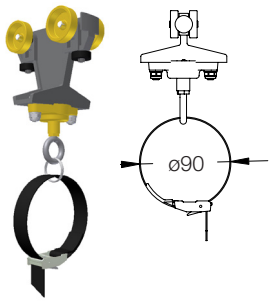
B* Ball joint

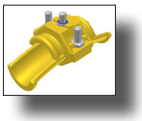
#		m[kg]
730469	PHB, LHB	0,2
730472	PHB1, AHB	0,2



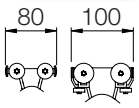
C Strap

#		m[kg]
730497	PHB, LHB	0,2
730498	PHB1, AHB	0,2





* Combine with cable/hose clamp, see section *Cable & hose clamps.*



PHB LHB PHB1 AHB

INFORMATION

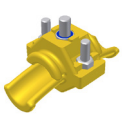
Trolleys for LHB also fits C-rails 30x32.

Trolleys should be combined with supplementary travel limits to avoid damage to the trolleys.

When using cable trolleys in curved track, contact Movomech.

Cable & hose clamps

#	ø	m[kg]
730473	10-16	0,1
730474	17-25	0,1
730475	26-36	0,1



INFORMATION

When using different sizes of clamps, place the largest one next to the trolley.

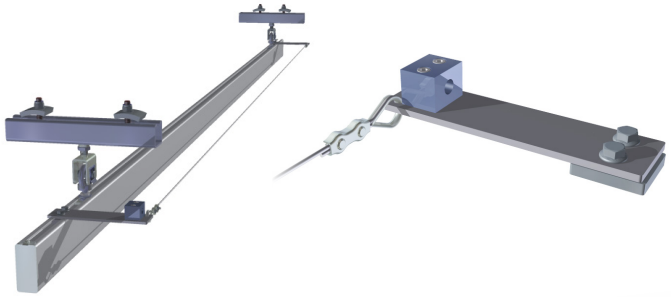
Wire brackets

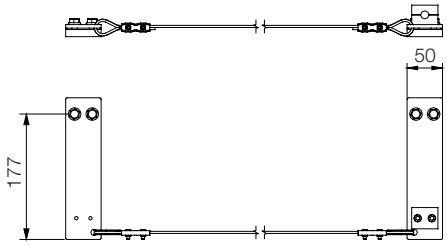
#		m[kg]
742169	*PHB*	1,1
738226	*PHB1*	1,1
740520	*LHB, AHB*	0,9

INFORMATION

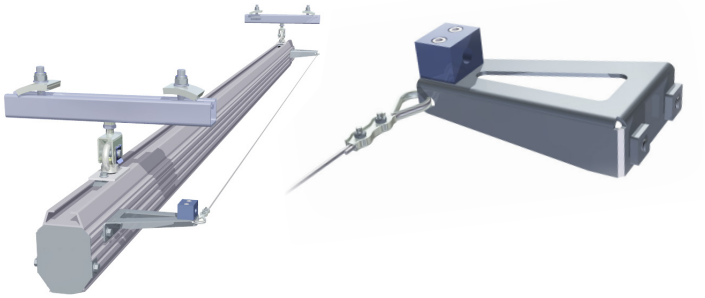
Sold in pairs, incl. thimble and lock.
Wire is ordered separately, per meter.

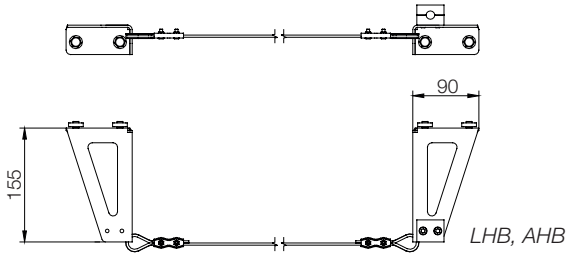
NOTE: Avoid suspension distances greater than 10 m.





PHB, PHB1

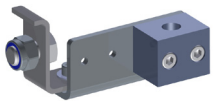




LHB, AHB

Strain relief

#
739976 **



Clamp

#
731556

Cable tie

#
732509 *

Media, see chapter *Cable* and *Hose*.

* For cable or hose/cable combinations.
** For spiral hose.

Wire

#	ø
730693	3

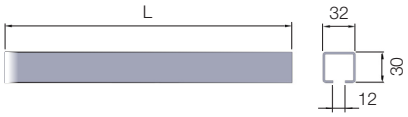
Ring

#
733846 *

C rail

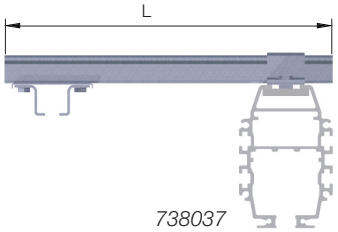
C rail

#	L[m]	m[kg/m]
733651[1]	*4*	0,2
732572[1]	*6*	0,2

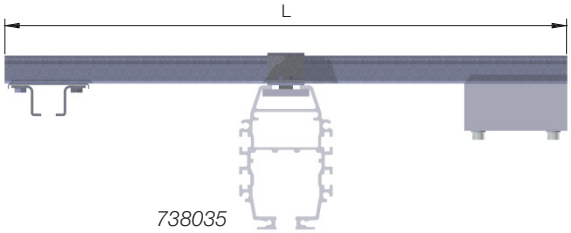


Console

#	L[mm]	m[kg]
738037[1]	*350*	0,2
738035[1]	*600*	0,2



738037



738035

Accessories

#	
732574[1]	*Junction*
732575[1]	*End stop*
732576[1]	*End cover*

INFORMATION

The C rail is combined with LHB cable trolleys.
Compatible with PHB1, AHB1.1-2, AHB3.
Max suspension distance is 2000 mm.

INFORMATION

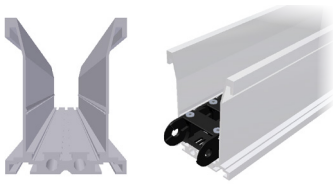
[1] Article with extended delivery time

Cable chain components

INFORMATION
[1] Article with extended delivery time

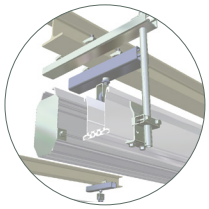
Media profile

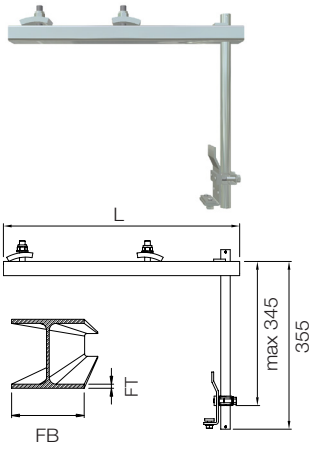
#	L[m]	m[kg]
730314	4	3,4
730313	6	3,4



Beam suspension

#	m[kg]	[kg]↓	FB	L[mm]
730831	2,5	25	70-300	500



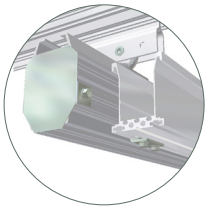


FT max.10

Rail suspension

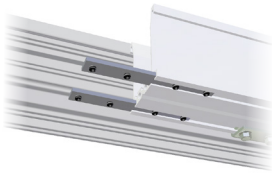
#		m[kg]	[kg]↓
730299	LHB, AHB	0,4	15
732355[1]	LHB, AHB	0,8	15

[1] Used for Powerdrive.



Joint sets

#	m[kg]
730860	0,4



Cable & hose inlet

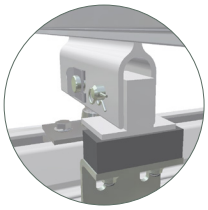
#	m[kg]
730845	0,8

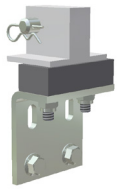
End fix

#	m[kg]
733240	0,1

Supporting blocks

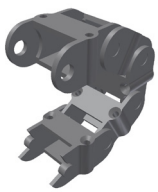
#	Track	Crane	m[kg]
732366	AHB1.1-2	LHB, AHB1.1-2	0,5
732367	AHB1.1-2	AHB3	0,5
732368	AHB3	LHB, AHB1.1-2	0,5
732369	AHB3	AHB3	0,5





Cable chains

#	R[mm]	m[kg]
733239	40	0,6
733242[1]	100	0,6



INFORMATION

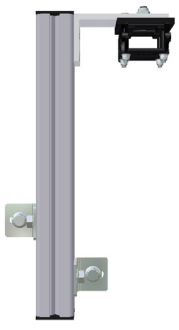
- Fast stay assembly
- Integrated connector in each link
- Abration resistance
- Intermediate divider support

Sold per meter run.
Intermediate dividers sold on request.

Countersink for optical reasons, or sliding chain application.

Cable towing arms

Track	Crane	R40 #	R40 m[kg]	R100 #	R100 m[kg]
AHB1.1	AHB1.1	732393	1,4	732395	1,4
AHB1.1	AHB2	732393	1,4	732396	1,5
AHB1.1	AHB3	732394	1,4	732396	1,5
AHB2	AHB1.1	732393	1,4	732396	1,5
AHB2	AHB2	732394	1,4	732396	1,5
AHB2	AHB3	732395	1,4	732397	1,5
AHB3	AHB1.1	732395	1,4	732396	1,5
AHB3	AHB2	732396	1,5	732397	1,5
AHB3	AHB3	732396	1,5	732397	1,5



Crane/hoist

#	m[kg]	
730300	1,3	R40

Crane/hoist

#	m[kg]	
732392	1,3	R100

Limit switches

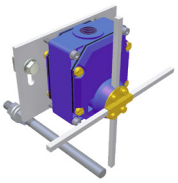
LHB/AHB

#		m[kg]
730657	A	1
730658	B	1
730656	C	0,6

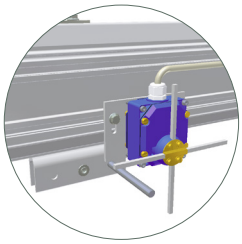
PHB1

#		m[kg]
742413	A	1
742415	B	1
742414	C	0,6

A / B



C



INFORMATION

A: 2 ON + 2 OFF, contact with quick break
B: 2 ON + 2 OFF, contact with slow break
C: 1 ON + 1 OFF, contact with quick break

The switches are delivered without cable fittings (PG13,5).

NOTE: Electrical installation may be performed only under the supervision of a qualified electrician!

IP67

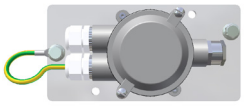
Coupling units

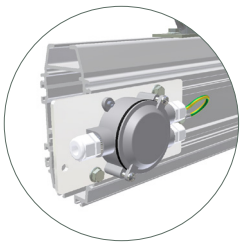
LHB/AHB

#		m[kg]	Max.
730522	A	0,6	4G1,5
740477	A	0,6	5G1,5
730523	B	0,6	4G1,5
740478	B	0,6	5G1,5
730524	C	0,6	5G1,5
742268	D	1,2	-

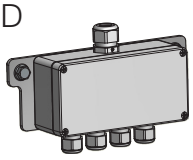
IP67

A / B / C



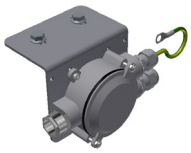


D



PHB1

#		m[kg]	Max.
740552	A	0,6	4G1,5
740553	B	0,6	4G1,5
740554	C	0,6	5G1,5



INFORMATION

A: For the round cable/flat cable combination, including earthing cable
B: For the flat cable/flat cable combination, including earthing cable
C: For the round cable/round cable combination, including earthing cable
D: For connection of e.g. limit switches: 4x M16 cable gland Ø5-10 mm, 1x M20 cable gland Ø10-14 mm, max 230 VAC 10A, terminal for 1.5 mm² wire included.

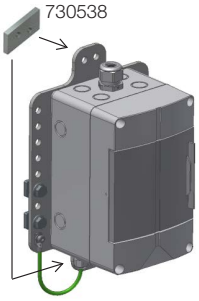
NOTE: Electrical installation may be performed only under the supervision of a qualified electrician!

Fuse boxes

LHB/AHB

#		m[kg]	
743078	A	3,1	1x10A
743079	B	3,1	3x10A

IP55



INFORMATION

Used on each crane in rail systems with power rail in the track to fuse each lifting unit. Potential equalization through 6 mm² earth cable to the mounting plate - can replace coupling unit type C.

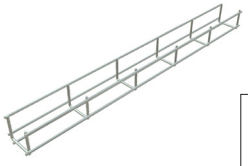
Comes with main switch and mounting plate for LHB/AHB.

Can also be mounted in the top groove of AHB with 2x plate 730538.

NOTE: Electrical installation should be performed under the supervision of a qualified electrician!

Cable tray

#	L[m]	m[kg/m]
732957	2,5	0,5



Bracket

#	m[kg]
732365	0,1

Cover

#	L[m]	m[kg]
730832	1	0,5
730833	2	0,5

INFORMATION

Used for earthing and potential equalisation between profiles/rails or between profile/rail and earthed building component.

For a connection against a painted surface, the paint must be removed in order to obtain sufficient contact.

NOTE: Electrical installation should be performed under the supervision of a qualified electrician!

Earthing cable

#	L
730692	300

Cable

Rubber cable

#		ø	Media
730650 *	3G1.5	10	B
730652 **	5G1.5	11	B

Flat cable

#		mm	Media
730648 *	4G1.5	15x5	A
730649 **	5G1.5	18x5	A

High flexible

#		ø	Media
732811	4G0,5	7	C, D
732814 *	3G1,5	8	C, D
731513 **	5G1,5	9	C, D

INFORMATION

Cable and hoses are ordered per running meter.
Spiral hose is ordered per operating length.

Common applications:

* Electric Mechlift
Mechchain Pro
Mechstack
Powerdrive single
Powerdrive double

** Powerdrive single + slave
Powerdrive double + slave
Powerdrive triple + slave / no slave

Hose

Standard

#		ø	Media
730646	PVC	15,5x10	B[1]
730673	PUR	4x2,5	E
730674	PUR	6x4	E
730675	PUR	8x5	E
730676	PUR	12x8	E

High flexible

#	ø	Media
731716	12x8	B, C

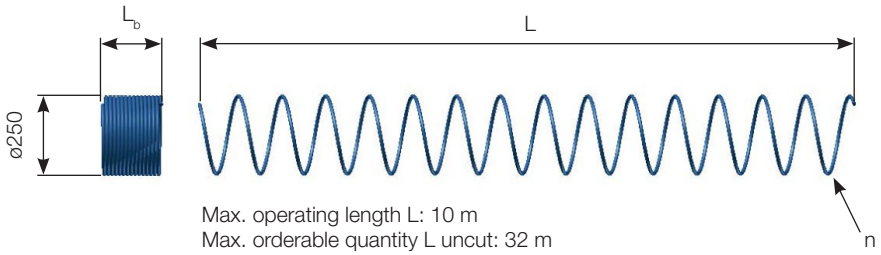
Spiral hose

#	ø	Media
730647	12x10	D

Recommended media combinations:

A Cable trolleys type A
B Cable trolleys type B
C Cable chain
D Wire + wire consoles
E Other pneumatic applications

[1] More rigid. When a greater airflow is required.



Max. operating length L: 10 m
Max. orderable quantity L uncut: 32 m

$L_b \approx 3L / 100$
$n = L / 0,4$

L: Operating length [m]
L_b: Compressed length [m]
n: Number of turns

Signs

A

#	
730613	(730590)

B

#
730631

C

#		Max last kg
737008	(734832)	-
730614	(730593)	20
730615	(730594)	30
730616	(730595)	40
730617	(730596)	50
730618	(730597)	63
730619	(730598)	80
730620	(730599)	100
730621	(730600)	125
730622	(730601)	150
730623	(730602)	200
730624	(730603)	250
740413	(735338)	400
730625	(730604)	500
730776	(730774)	1000

#		S.W.L. kg
737009	(737007)	-
730626	(730605)	100
730627	(730606)	125
730628	(730607)	150
730629	(730608)	200
730630	(730609)	250
733807	(732657)	500
730777	(730775)	1000

A 

B 

C 

INFORMATION

All signs are delivered with bolts and nuts required for mounting on profiles.

Number in brackets: only decal.

Hose couplings

Hose joints

#	ø
730681	4
730682	6
730683	8
730684	12
730688 *	12
730680 **	10x15,5

Reducing couplings

#	ø
730685	4/6
730686	6/8
730687	8/12

Pipe couplings

#		ø
730677	G1/4	10x15,5
730678	G3/8	10x15,5
730679	G1/2	10x15,5

Hose clamp

#	ø
730689	10/16

Rapid hose couplings

#		ø
734850	G1/4	4
734820	G1/4	6
733954	G1/4	8
733955	G1/4	10
731562	G1/4	12

Y couplings

#	ø
733439	4-4-4
733853	6-6-6
732825	8-8-8

Coupling block

#	
733953	G1/4

Plug

#	
731568	G1/4

Screws

#	
730215	M8x10
730216	M8x12
730217	M8x14
730218	M8x16
730219	M8x20
730297	M8x40

#	
730114	M8x17
730113	M8x24
732239	M8x35

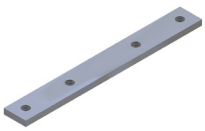
Nuts

#	
730132	M4
730131	M5
730130	M6
730115	M8

#		*CC/L*
730278	M6	30/40
730116	M8	40/60
730659	M8	80/100
731379	M8	120/140

#	
730139	M4
730138	M5
730137	M6
730136	M8

#		*CC/L*
730214	M8	30/40



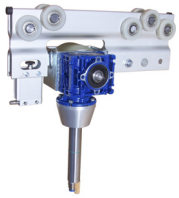
Powerdrive

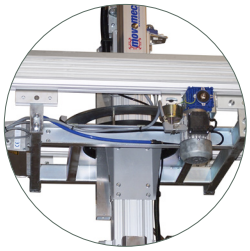
Equip Mechrail with a Powerdrive unit for controlled and automated travel. It is available in both electric and pneumatic designs.

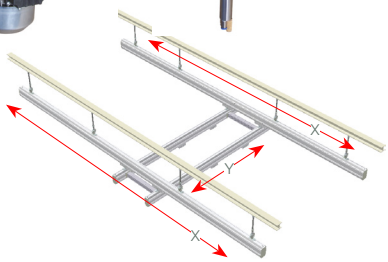
Contact Movomech for more information.

Electric

Pneumatic







Installation instructions

Planning and preparation

Material verification

General review and inspection of delivered material should be undertaken during unpacking.

Start up of the equipment

An installation protocol must be complete if the installer has not been trained by Movomech before the equipment is commissioned.
In cases when more than one system is installed, each system must be provided with an installation protocol, name the systems by using ID-numbers, denominations etc. The installation protocol shall be kept by the client/user.

Tip & advice

With all possible combination within the MechRail assortment only general tip and advice are found here. Carefully plan what to install as well as the installation sequence before work is beginning.

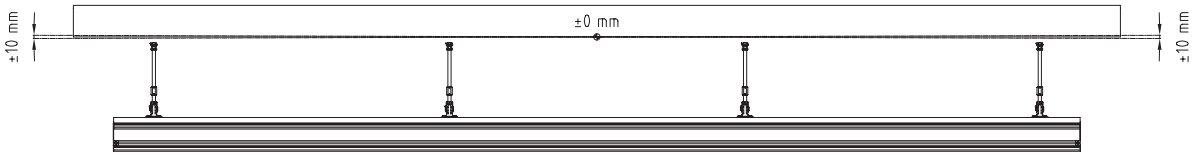
Install if appropriate planned components on the ground before they are put up in the system. For instance the drilled holes necessary for end stoppers are virtually impossible to drill out in a suspended rail, make these holes while on the floor.

Note the importance of cleaning the inside of the rail profiles before trolleys are inserted!

Tolerance requirements

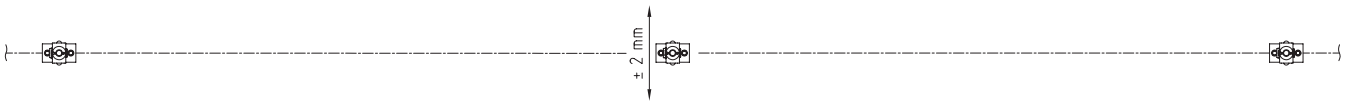
Horizontal plan - Overhead structure

Overhead structure may not exceed the tolerance of ± 10 mm horizontally.



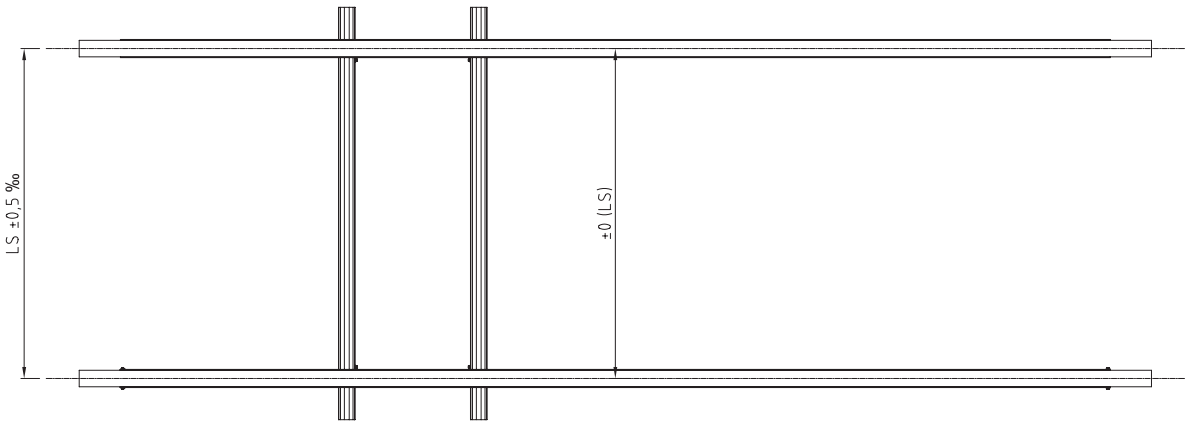
Straightness - Tracks

The suspensions for a track may not be placed with a greater deviation than ± 2 mm from the track direction.



Parallelism - Double track

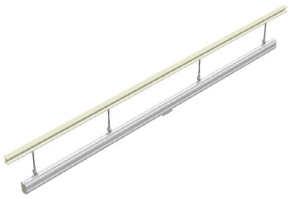
The suspensions for a track may not be placed with a greater deviation than ± 0,5 ‰ in parallelism.



Installation of track

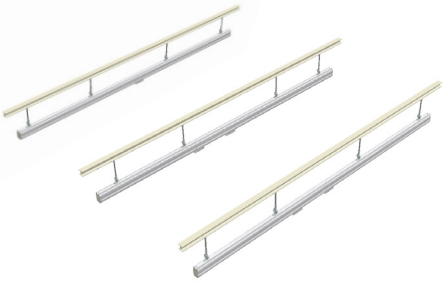
1. Install the suspensions in the overhead structure (does not apply tight mounted track).
2. Adjust and level the suspensions horizontally (adjusting washers might be necessary when tight mounted track).
3. Install if appropriate the components used in the track before suspending it.
4. NOTE! End stoppers must allways be installed before taking the track into use! The track is considered to be in use whenever it is suspended!
5. Suspend the track.

Single track



Double track

Triple track



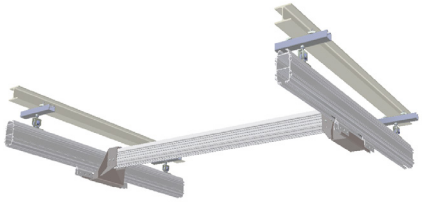
Installation of crane

1. Install the track in the overhead structure.
2. Adjust and level the track horizontally and its parallelism.
3. Install if appropriate the components used in the crane before suspending it.
4. NOTE! End stoppers must allways be installed before taking the crane into use! The crane is considered to be in use whenever it is suspended!
5. Suspend the crane.

Single crane

Double crane

Space saving crane



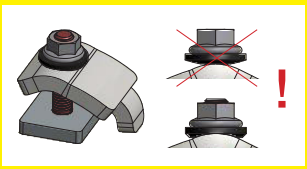
Telescopic crane

1. Install the track in overhead structure.
2. Adjust and level the track horizontally and its parallelism.
3. Install if appropriate the components used in the overhead crane before suspending it.
4. NOTE! End stoppers must allways be installed before taking the overhead crane into use! The overhead crane is considered to be in use whenever it is suspended!
5. Suspend the overhead crane.
6. Install if appropriate the components used in the telescoping crane before suspending it.
7. NOTE! End stoppers must allways be installed before taking the telescopic crane into use! The telescopic crane is considered to be in use whenever it is suspended!
8. Suspend the telescopic crane.

Base assortment
Suspensions / Rail profiles

* INFORMATION

The flange clamp has a new design from preliminary December 2016.

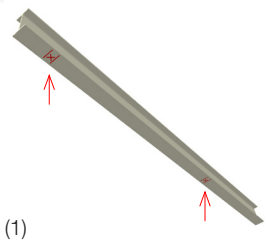


Tightening torque M12: 90 Nm.
Alternatively, tighten until resistance is obtained, then tighten a further 1/4 turn.

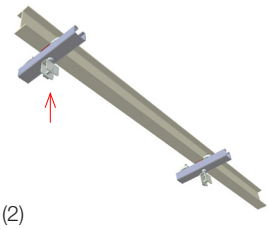
Åtdragningsmoment M16: 210 Nm.
Alternatively, tighten until a distinct resistance is obtained, then tighten a further 1/2 turn.

A & B

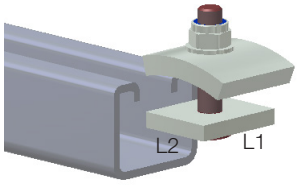
1. Measure and mark each point of suspension.
2. Place the suspension at the point of suspension.
3. Verify that the lower plate is in correct position in the anchor profile.
4. Guide the clamps onto the girder flange.
5. Make sure that the short end of the clamp is inserted over the flange. Tighten the clamps just enough so that the suspension can be fine adjusted on the point of suspension. Tighten the clamps with the correct tightening torque, 81 Nm (M12), 197 Nm (M16). **Note! See also info*!**
6. Insert the crane girder suspension into the rail top flange, making sure that it receives the same suspension distance as the upper half of the suspension. Tighten the crane girder suspension with the correct tightening torque, 24 Nm (M8), 10 Nm (M12). **Note! See also info*!**
7. Raise the rail with the crane girder suspensions towards the upper half of the suspension.
8. Fit the loop in the fork, insert the cotter and lock it with the locking ring. Level the rail.



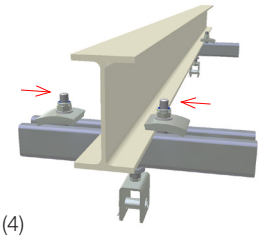
(1)



(2)



(3) L1>L2



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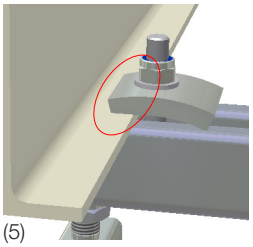

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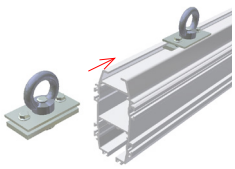
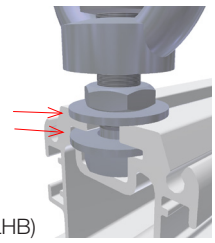
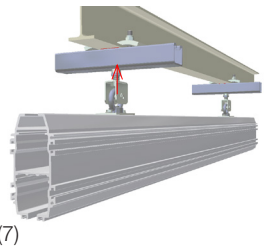


(6)



(PHB/LHB)



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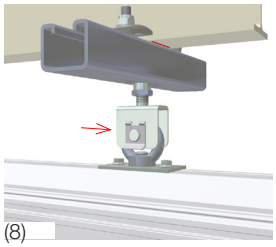
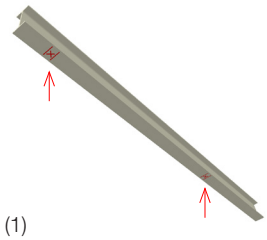


(8)

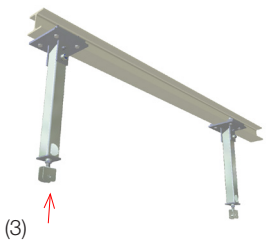
C

1. Measure and mark each point of suspension.
2. Attach the clamp on one side (bolt heads upward).
3. Place the suspension at the point of suspension.
4. Attach the second clamp. Tighten the clamps just enough so that the suspension can be fine adjusted on the point of suspension. Tighten the clamps with the correct tightening torque, 81 Nm. **Note! See also info*!**
5. Insert the crane girder suspension into the rail top flange, making sure that it receives the same suspension distance as the upper half of the suspension. Tighten the crane girder suspension with the correct tightening torque, 24 Nm (M8), 10 Nm (M12). **Note! See also info*!**
6. Raise the rail with the crane girder suspensions towards the upper half of the suspension.
7. Fit the loop in the fork, insert the cotter pin and lock it with the locking ring. Level the rail.

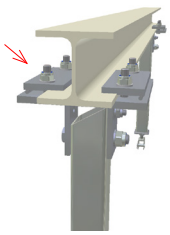


(1)

(2)



(3)



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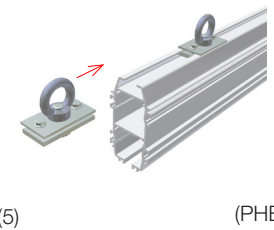

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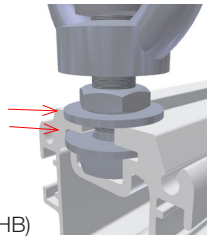
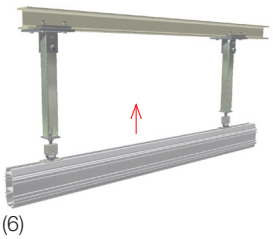


(PHB/LHB)



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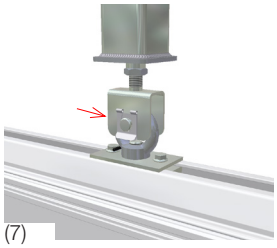
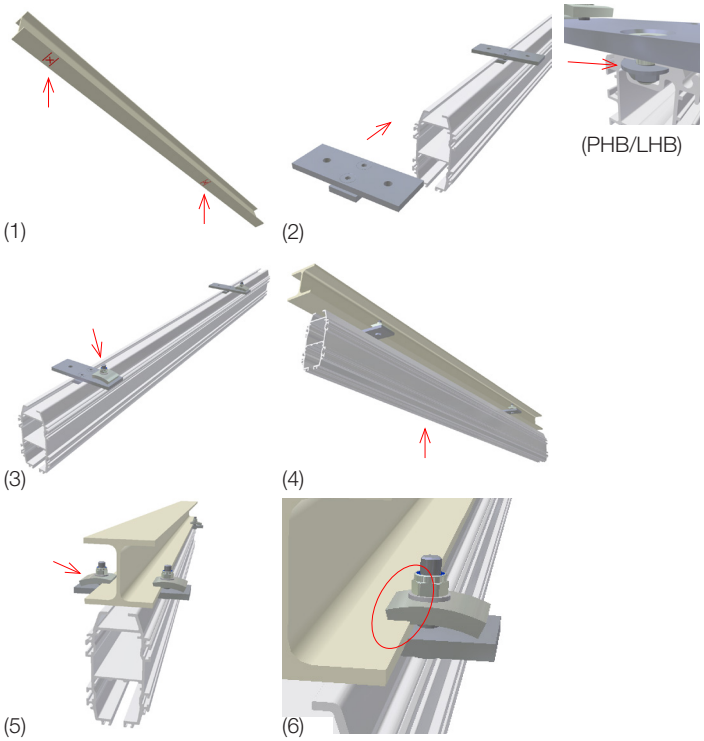


(7)

D

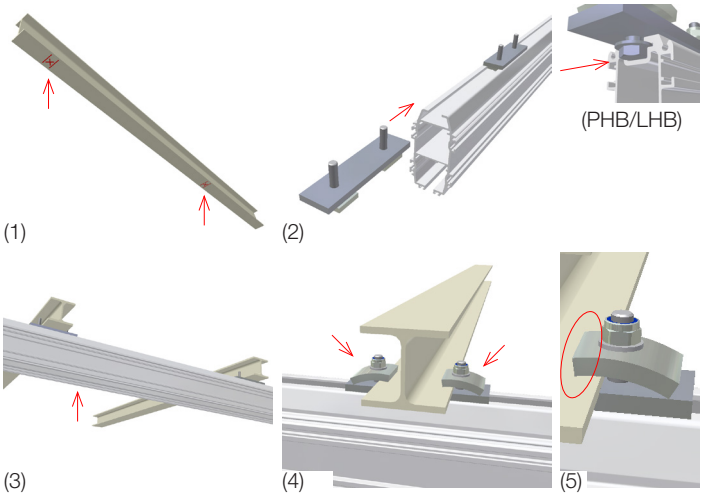
Longitudinally mounted:

1. Measure and mark each point of suspension.
2. Insert the suspensions in the rail top flange. Tighten the suspension against the rails flange. Use the correct tightening torque, 81 Nm (M12), 197 Nm (M16). **Note! See also info*!** Make sure that the desired suspension distance is obtained between the suspensions.
3. Attach the clamps one one side.
4. Raise the rail towards the point of suspension.
5. Attach the clamps on the other side.
6. Make sure that the short end of the clamps are inserted over the flange. Tighten the clamps just enough so that the suspension can be fine adjusted on the point of suspension. Level the rail, use adjusting washers if necessary. Tighten the clamps with the correct tightening torque, 81 Nm (M12), 197 Nm (M16). **Note! See also info*!**



Cross mounted:

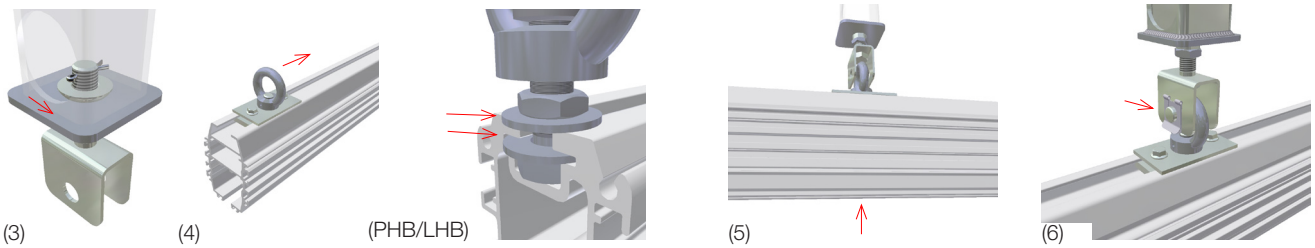
1. Measure and mark each point of suspension.
2. Insert the suspensions in the rail top flange.
3. Raise the rail towards the point of suspension.
4. Attach the clamps.
5. Make sure that the short end of the clamps are inserted over the flange. Tighten the clamps just enough so that the suspension can be fine adjusted on the point of suspension. Level the rail, use adjusting washers if necessary.
6. Tighten the clamps with the correct tightening torque, 81 Nm (M12), 197 Nm (M16). **Note! See also info*!**



E

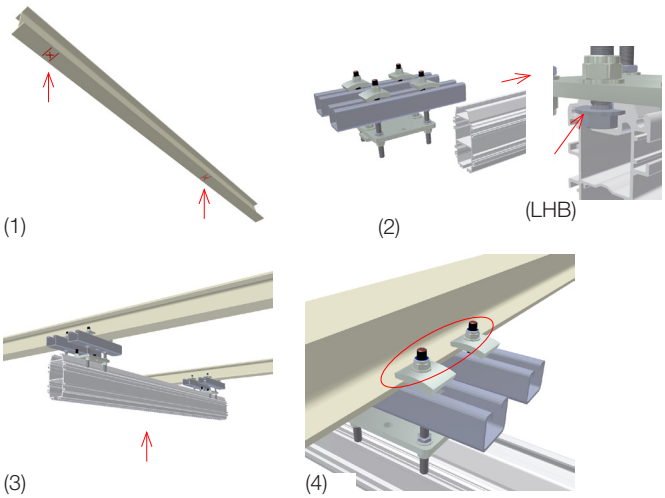
Provide the necessary suspensions.

1. Place the ball nut in the hole in the plate.
2. Attach the suspending bolt.
3. Insert the cotter pin.
4. Insert the crane girder suspension into the rail top flange, making sure that it receives the same suspension distance as the upper half of the suspension.
5. Raise the rail with the crane girder suspensions torwards the upper half of the suspension.
6. Fit the loop in the fork, insert the cotter and lock it with the locking ring. Level the rail.



F

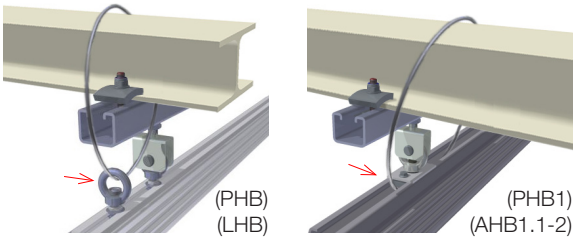
1. Measure and mark each point of suspension.
2. Insert the suspensions in the rail top flange. Tighten the suspension against the rails flange. Use the correct tightening torque, 81 Nm (M12), 197 Nm (M16). **Note! See also info* previous page!** Make sure that the desired suspension distance is obtained between the suspensions.
3. Raise the rail towards the point of suspension.
4. Make sure that the short end of the clamps are inserted over the flange. Tighten the clamps just enough so that the suspension can be fine adjusted on the point of suspension. Level the rail. Tighten the clamps with the correct tightening torque, 81 Nm (M12), 197 Nm (M16). **Note! See also info* previous page!**



Safety wire for suspensions

LHB/PHB

1. Safety wire is mounted through the second crane girder suspension and over the beam above. The wire length is tailored to the current situation, see description below.
2. Install the two wire joints, see description below.

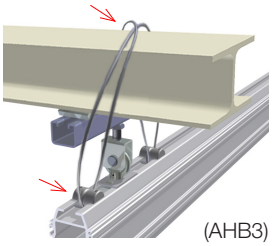


PHB1/AHB1.1-2

1. Safety wire is mounted through the crane girder suspension of the track and over the beam above. The wire length is tailored to the current situation.
2. Install the two wire joints, see description below.

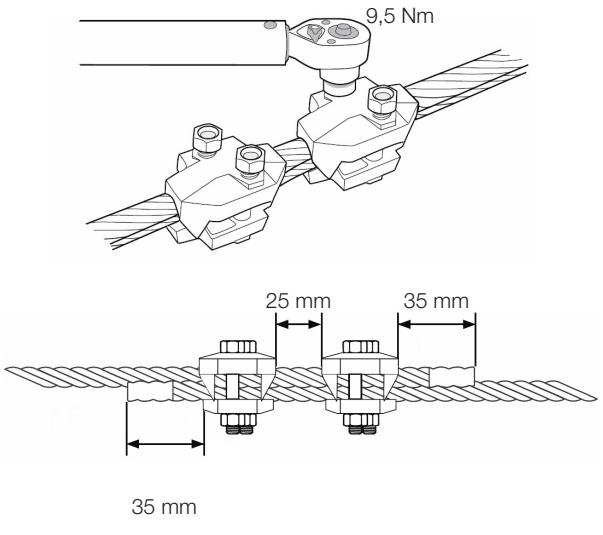
AHB3

1. Install the wire spools (rail) and crane girder suspension, as shown on picture, with the correct tightening torque, 24 Nm (M8), 10 Nm (M10). The wire spools are positioned one on each side of the crane girder suspension.
2. Install the wire under the first spool, over the beam, under the second wire spool and back over the beam. The wire length is tailored to the current situation.
3. Install the two wire joints, see description below.



MOUNTING OF WIRE JOINTS

1. Ensure that the wire and wire joints are undamaged and that the threads are clean and lubricated.
2. Unscrew the nuts as far out as possible on the screws. Insert one end of the wire through both wire joints.
3. Install the wire according to the description above, and insert the other wire end in the wire joints.
4. Install the two wire joints with a distance of 25 mm and a wire protrusion of 35 mm/each. Ensure that the wire joints are positioned straight and symmetrically.
5. Tighten the nuts alternately so that the teeth fit into the slots on each side. NOTE! Use a torque wrench! Tighten the nuts with the correct tightening torque; 9,5 Nm.



Trolleys

NOTE: Before using trolleys in the system end stoppers must be installed!

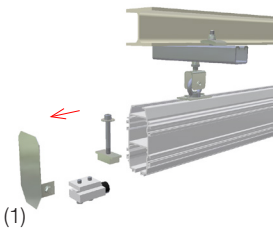
A & C

1. Dismantle any mounted end cover, end stopper and travel limits.
2. Insert required number of trolleys in the rail bottom flange. Fit end stoppers, end covers and any limit stoppers.

B

Mount two type A trolleys as above.

3. Remove the cotters with locking plates.
4. Fit the spacer between the trolleys, insert the cotters and secure them with the locking plates.



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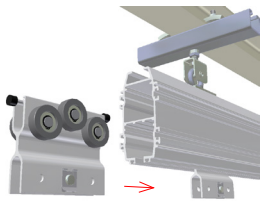

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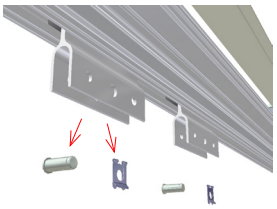
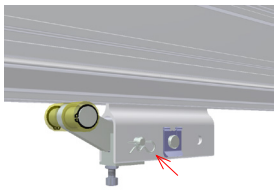


(3)

Friction roller

1. Secure the friction roller in the trolley with the lock bolt.
2. Adjust friction with the screw, lock with the lock nut.

NOTE! The friction shall only counteract self-rolling in the system!



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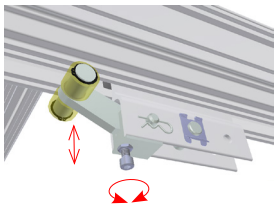
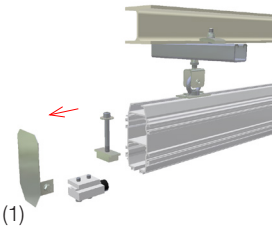


(2)

Distance bars

NOTE: Before using distance bars in the system, end stoppers must be installed!

1. Dismantle any mounted end cover, end stoppers and travel limits.
2. Insert the distance bars in the bottom flange of the track rails. Fit the next crane, end stoppers, end covers and eventual travel limits.



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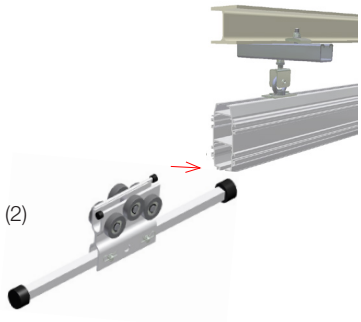


(2)

End stoppers

1. Measure and mark where the end stoppers are to be mounted.
2. It is of importance that the hole is placed in the centre of the profile and that it is vertical!
3. Drill necessary holes (PHB/LHB ø10 - PHB1/AHB ø13). Deburr the edges of the hole. Clean the profile internally, it is of importance that chips that may stick on the trolley wheels are removed.

NOTE! It is much easier to install the end stoppers before the rail is suspended!

A

PHB/LHB

4. Insert the nut and washer in the rail top flange, place them directly above the hole. Insert the bolt with the washer through inserted washer and nut. Tighten the bolt with the correct tightening torque, 10 Nm.

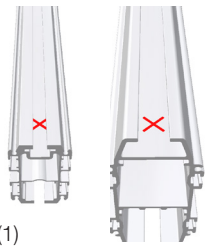
PHB1/AHB

5. Insert the stopper in the upper slot in the rail bottom flange, place it directly below the hole. Insert the screw with washer into the upper hole down through the lower. Tighten the stopper with the correct tightening torque, 20 Nm (M8, M12).

B

PHB1/AHB

6. Insert the stopper in the upper slot in the rail bottom flange, place it directly below the hole. Insert the screw into the stopper and through the holes. Apply washer and nut. Tighten the stopper with the correct tightening torque, 20 Nm.



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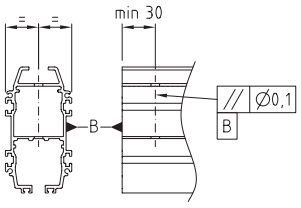

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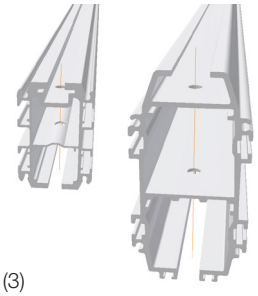

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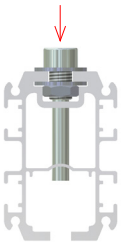
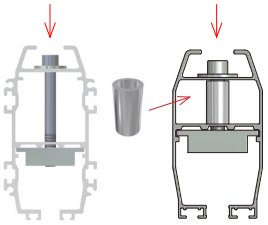
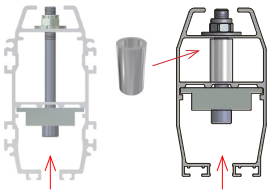


(4) PHB/LHB



(5) AHB PHB1



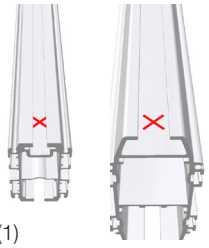
(6) AHB PHB1

Crane girder suspensions

Tip: first fix one suspension with correct tightening torque, 24 Nm (M8), 10 Nm (M12), fix the others when the rail is suspended.

Check whether safety wires are to be mounted at the same time.

1. Measure and mark where the crane girder suspensions will be mounted.
2. Insert the crane girder suspensions in the rail top flange. Bring the suspension to the required position. Tighten the crane girder suspensions with the correct tightening torque, 24 Nm (M8), 10 Nm (M12).



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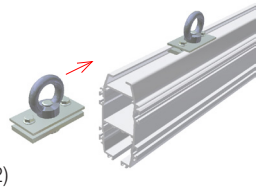

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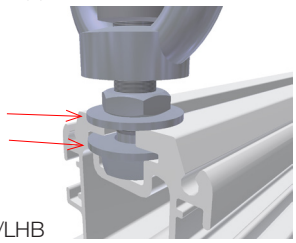


PHB/LHB

End covers

PHB

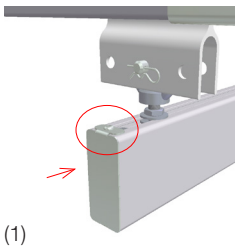
1. Insert the end covers nuts into the upper slot. Fix the end cover with the correct tightening torque; 8,1 Nm.

LHB/AHB

2. Insert the end covers t-slot nuts into the lower exterior slot of the rail. Fix the end cover with the correct tightening torque, 24 Nm.

PHB1

3. Insert the end covers t-slot nuts into the lower slot of the rail. Fix the end cover with the correct tightening torque, 24 Nm.



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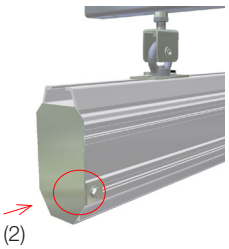

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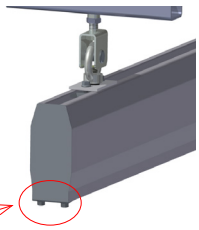


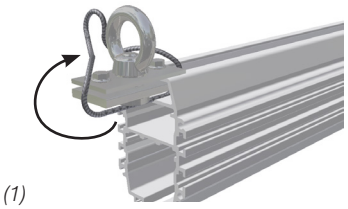
(3)

Safety wires for cranes

A

PHB1/AHB1.1-2

1. Before the crane girder suspensions are inserted in the rail top flange, place the safety wires around the suspension.
2. Bring the suspension to the desired position.
3. Tighten the crane girder suspensions with the correct tightening torque, 24 Nm (M8), 10 Nm (M12).
4. Raise the rail with crane girder suspensions towards the trolleys.
5. Fit the loop in the fork, insert the cotter, and lock it with the safety plate.
6. Rotate the safety wire a half turn.
7. Bring the top loop against a free hole in the trolley.
8. Put the cotter into the hole in the trolley together with the top loop, and lock them with the safety plate.



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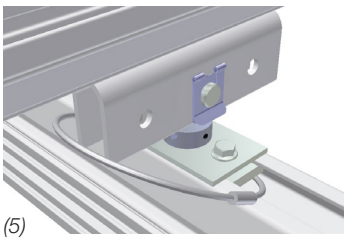

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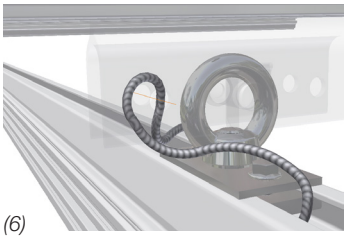

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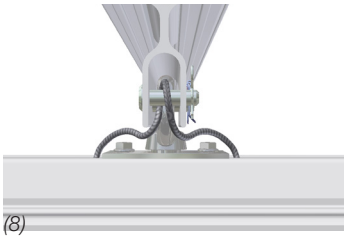
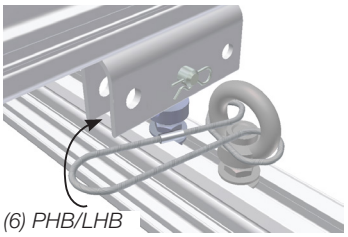


(8)

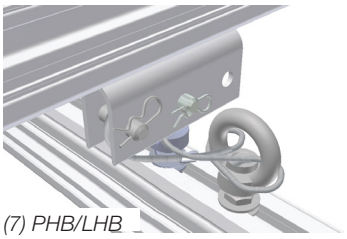
B

PHB/LHB

1. Insert the crane girder suspension in the upper flange on the rail profile.
2. Bring the suspension to the desired position.
3. Tighten the crane girder suspensions with the correct tightening torque, 24 Nm (M8), 10 Nm (M12).
4. Install the wire in the crane girder suspension (6).
5. Rotate the safety wire a half turn.
6. Bring the top loop against a free hole in the trolley.
7. Put the cotter into the hole in the trolley together with the top loop, and lock them with the locking pin.



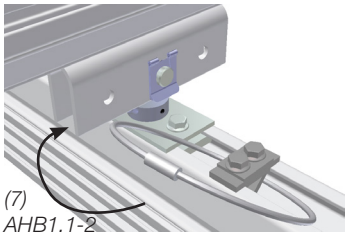
(6) PHB/LHB



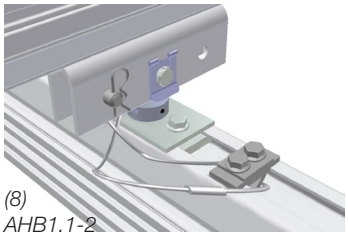
(7) PHB/LHB

PHB1/AHB1.1-2

1. Place the mounting plate in the rail top flange.
2. Place the safety wire around the mounting plate.
3. Set the upper part directly above the mounting plate and fix the bolts.
4. Bring the locking plates against the crane girder suspension.
5. Tighten the bolts with the correct tightening torque (25 Nm).
6. Rotate the safety wire a half turn.
7. Bring the top loop against a free hole in the trolley.
8. Put the cotter into the hole in the trolley together with the top loop, and lock them with the safety plate.



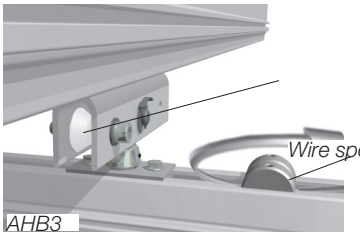
(7)
AHB1.1-2



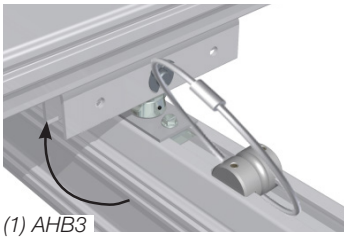
(8)
AHB1.1-2

AHB3

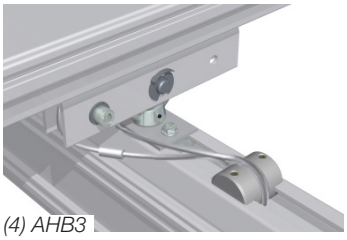
1. Position the safety wire around the cable spool for rail, insert it in the track profile and tighten with the correct tightening torque, 24 Nm.
2. Rotate the safety wire a half turn.
3. Place the safety wire around the wire spool for trolley, and install it in the trolley.
4. Install the screw, washer and nut with correct tightening torque, 81 Nm.



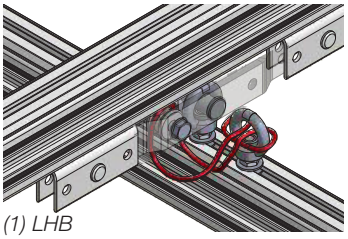
AHB3



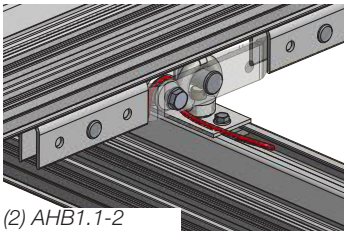
(1) AHB3



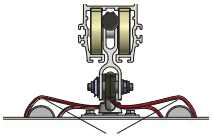
(4) AHB3



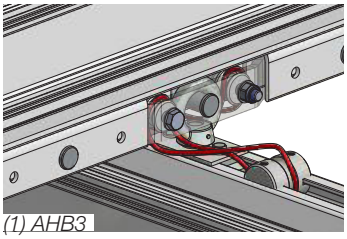
(1) LHB



(2) AHB1.1-2



AHB3 : 2x



(1) AHB3

Travel limits

A

PHB/AHB

1. Insert the travel limit in the upper slot in the rails bottom hole clearance.
2. Place the travel limit in the desired position. Tighten the bolt with the correct tightening torque, 24 Nm (M8), 45 Nm (M12).

B

Tip: This type is dismountable, which makes it possible to insert the mounting plate through the rails bottom hole clearance without having to remove any mounted end stops and end cover.

3. Insert the travel limit's mounting plate in the bottom slot of the rail.
4. Place the travel limit in the desired position. Tighten the bolts with the correct tightening torque, 24 Nm (M8), 47 Nm (M10).

Hydraulic dampers must not reach end of stroke at impact. To prevent this, dampers of type C or D should be mounted in combination with type A.

C/C+

5. Mount the plate for travel limit in the trolley with correct tightening torque, 8,1 Nm.
6. Insert the travel limit's mounting plate in the bottom slot of the rail.
7. Place the travel limit in the desired position. Tighten the bolts with the correct tightening torque, 47 Nm.

C-M

LHB/AHB

8. Insert the travels limits t-slot nuts in the rails exterior slots.
9. Place the travel limit in the desired position. Tighten the bolts with the correct tightening torque, 24 Nm.

D

LHB/AHB

10. Secure the travel limit on the trolley. Tighten the screw with the correct tightening torque, 81 Nm. Insert the travel limit's T-slot nuts in the exterior T-slot on the profile.
11. Position the travel limit where required. Tighten the screws with the correct tightening torque, 24 Nm.

E

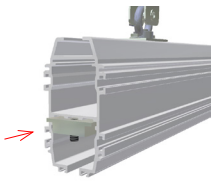
PHB

12. Secure the travel limit on the trolley. Tighten the screw with the correct tightening torque, 81 Nm.
13. Position the travel limit where required. Drill two holes: Ø9 mm on the rear side of the profile and Ø6 mm on front side. Tighten the screws moderately.

LHB

14. Secure the travel limit on the trolley. Tighten the screw with the correct tightening torque, 81 Nm.
15. Insert the travel limit's T-slot nuts in the exterior T-slot on the profile. Position the travel limit where required. Tighten the screws with the correct tightening torque, 24 Nm.

NOTE: Travel limits may under no circumstance replace drilled end stoppers!



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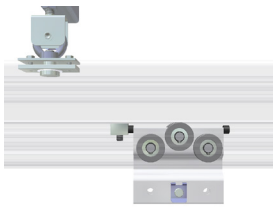

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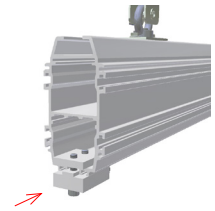

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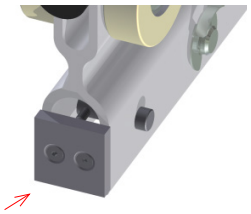

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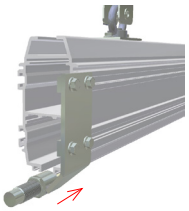

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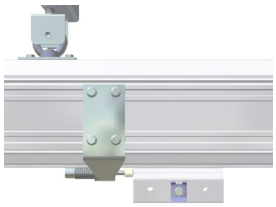

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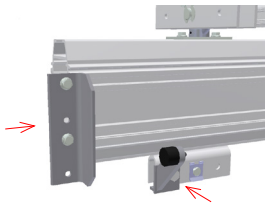

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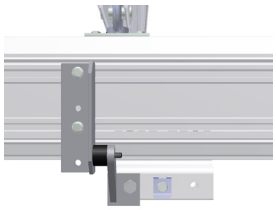

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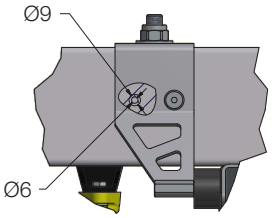

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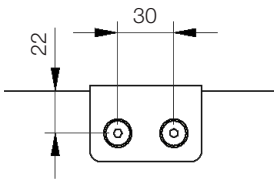

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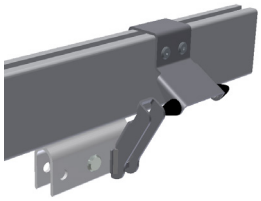


(12-14)

(14-15)

Joint sets

Tip: it may be beneficial to fit the joints sets before the rail profiles are installed, if the installation conditions permit this.

PHB

1. Insert the nuts in the upper slot on the profile and then the connecting profile. Bring the sections together.
2. Place the joint sides in the middle over the splice. NOTE! It is important that the lower flange on the plate rests against the lower edge of the profile before the upper flange is clamped in position!
3. Carefully clamp the joint set against the profile. Tighten the upper screws slightly, no more than they just fasten.
4. Make sure that the profiles are spliced correctly and drill the holes for the side screws, ø6 on one and ø9 on the other side of the profile.
5. Fit the side screws and tighten these moderately.
6. Tighten the upper screws with the correct tightening torque, 24 Nm.

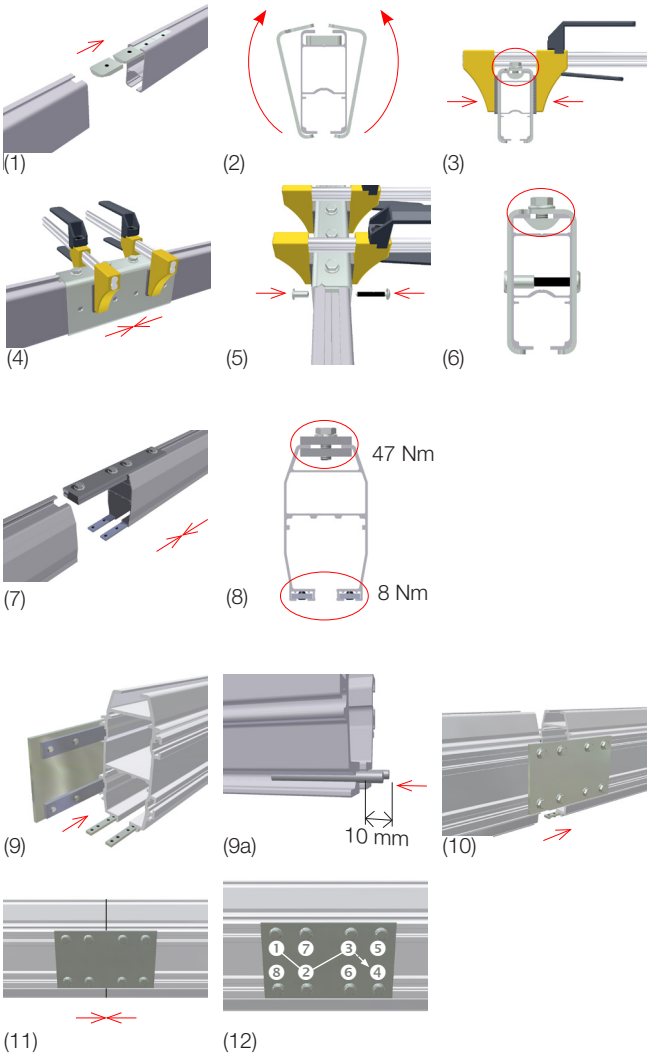
PHB1

7. Insert the long nut in the upper slot on the profile and introduce the loose pins in the rails bottom section exterior slot. Bring the sections together.
8. Tighten screws with the correct tightening torque, 47 Nm (M10), 8 Nm (M6).

LHB/AHB

Tip: The joint bars can advantageously be mounted after the rail profile is suspended, if the mounting conditions allow this.

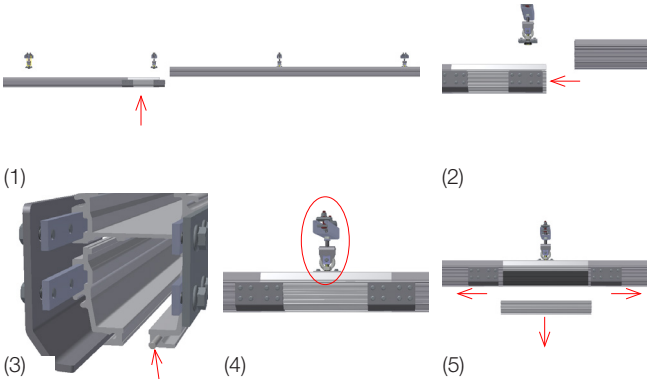
9. Insert the joint bars T-slot nuts in the rails exterior T-slot. For the AHB1.1 rail, also introduce the loose pins in the rails bottom section exterior slot (9a). For the AHB2/3 rails, also introduce the loose joint nuts in the rails bottom section exterior T-slot. Tighten the splices slightly, just enough to give a slight grip.
10. Bring the rail to be connected against the splice. Fit the joint bars, and for the AHB rails also the bottom joint nuts/pins in the slots.
11. Bring all the sections together.
10. Begin cross-tightening the joint bars and joint nuts. Finally, tighten the splicing element with the correct tightening torque, 24 Nm.



Maintenance hatches

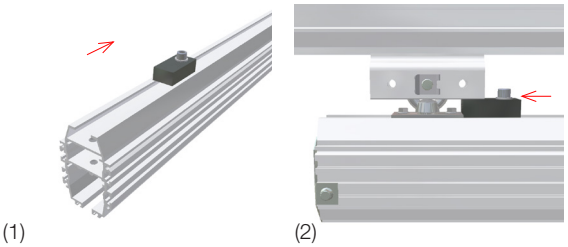
Tip: pre-mount the maintenance hatch on the track profile before installation. The maintenance hatch must be mounted mid under a suspension.

1-2. Insert the joint bars T-slot nuts in the rails exterior T-slot. The joint is on one side fitted loosely at a distance in on the short profile.
3. The pin/joint nut is mounted only on the side without hatch.
4. Bring the sections together. Begin cross-tightening the joint bars and joint nuts. Finally, tighten the splicing element with the correct tightening torque, 24 Nm.
5. To open the maintenance hatch, the plates are loosened and moved to the side.



Spacer plates for telescopic cranes

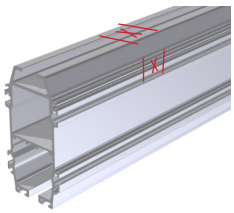
1. Place the mounting plate in the rail top flange. Put bolt together with spacer and fasten it in the mounting plate.
2. Bring the spacer plate against the crane girder suspension. Tighten the spacer plate with the correct tightening torque, 81 Nm.



Spacers for double crane

LHB/AHB

1. Measure and mark where the spacers are to be mounted, at least 100 mm within the rail edge.
2. Pre-assemble the spacer and enter it in the upper slots of the rail profiles. Tighten the bolts with the correct tightening torque; 24 Nm (M8), 81 Nm (M12).

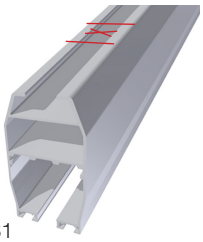


(1) LHB/AHB

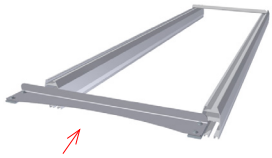
(2) LHB/AHB

PHB1

1. Measure and mark where the spacers are to be mounted, at least 100 mm within the rail edge.
2. Pre-assemble the spacer and enter it in the upper slots of the rail profiles. Tighten the bolts with the correct tightening torque, 24 Nm.



(1) PHB1



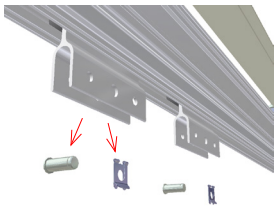
(2) PHB1

Space savers for cranes

A crane with a space saver module is pre-assembled before being installed in the track.

Tip: If other equipment is to be mounted onto the crane, T-slot nuts should be inserted in the rails exterior slots on the sides before the design modules are mounted.

1. Remove the pins with locking plates.
2. Insert the mounting plate of the module in the upper slot of the rail and the T-slot nuts in the rails exterior T-slots. Enter the profile entirely to the inner rear wall of the module.
3. Tighten the bolts in the upper slot with the correct tightening torque, 81 Nm.
4. Tighten the bolts in the exterior slots on the sides of the profile with the correct tightening torque, 24 Nm.
5. Install the stay (5A) with the correct tightening torque, 47 Nm. For a double crane, install also the distance stay between the space saver modules (5B).
6. Elevate the crane up to the track.
7. Fit the modules between the trolleys, insert the pins and secure them with the locking plates.



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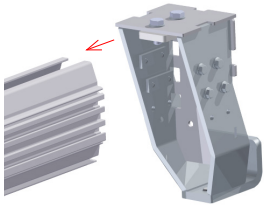

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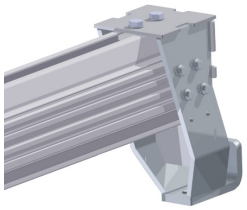

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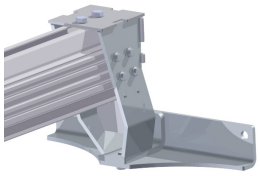
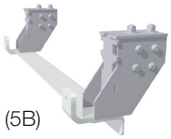
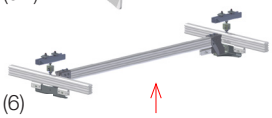


(5A)



(5B)



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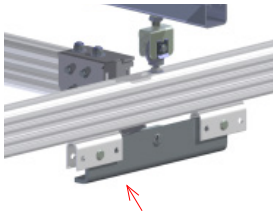
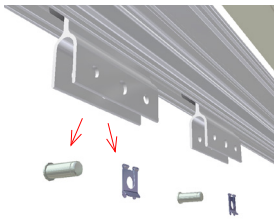


(7)

Triangulary stay

1. Take the pins with the lock washer.
2. Fit the stays in the required position.
3. Tighten the stays with the correct tightening torque 81 Nm (M12), 197 Nm (M16).
4. Lift the crane up on the track.
5. Align the stays between the trolleys, insert the pins and secure these with the lock washers.



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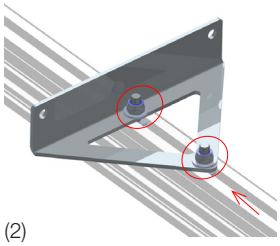

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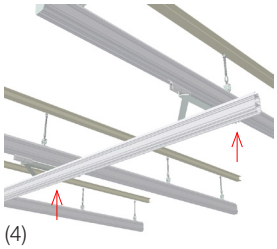

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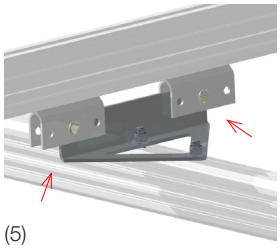


(5)

Optional products

Parking brakes

A

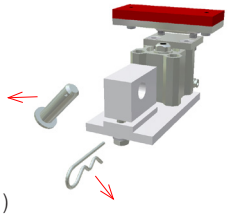
1. Extract cotter and pin.
2. Fit the block into the trolley, loosen the bolts if necessary.
3. Insert the pin and lock it with the cotter.
4. Tighten the bolts that hold the block in place with the correct tightening torque; 9,8 Nm.
5. Connect the brake pneumatically.
6. Check that the brake lining is flush the rails underside when compressed air is supplied to the cylinder.

B

Install as above.

7. Connect the brake electrically.

NOTE: Electrical installation should be performed under the supervision of a qualified electrician!



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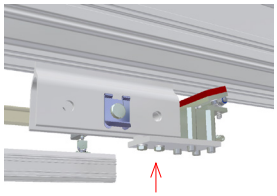

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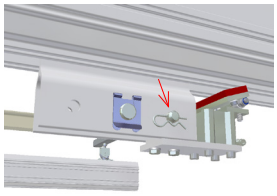

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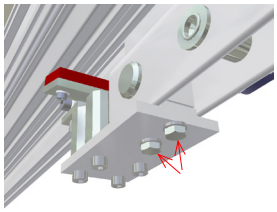

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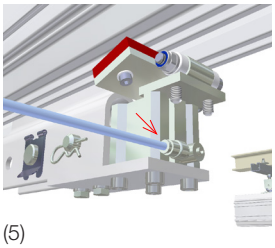

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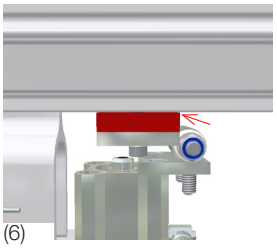

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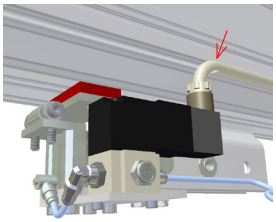
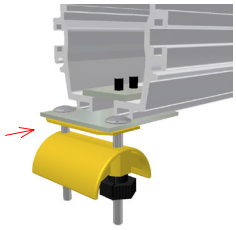


(7)

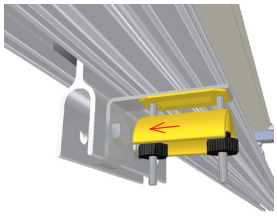
End fix

- Insert the mounting plate in the rails bottom hole clearance.
- Bring the end fix until the mounting plate comes inside the rails edge. Tighten the bolts with the correct tightening torque, <10 Nm.



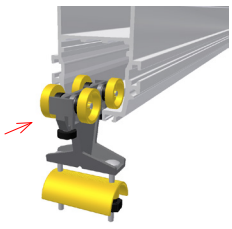
Cable towing arms

- Place the cable towing arm next to one of the trolley's two free holes.
- Insert the nut in the trolley.
- Insert the bolt. Tighten the bolts with the correct tightening torque, 81 Nm.



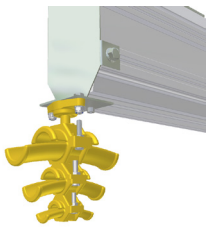
Cable trolleys

Insert the cable trolleys in the rails bottom hole clearance.



Cable & hose clamps

Tip: If several sizes are combined, the largest clamp should be placed nearest to the ball joint.



The first clamp:

- Unscrew the bolt on the ball and socket joint.
- Unscrew the clamp.
- Unscrew the bolt and locknut in the middle.
- Insert the bolt from the ball and socket joint through the top part of the clamp.
- Attach the top part in the ball and socket joint on tight.
- Attach on the lower part.
- Place the locknut with locking side upwards in the lower part.
- Place hose/cable. Tighten the clamp with the correct tightening torque, <10 Nm.

The following clamps:

- Unscrew the locknut in the middle on the following clamp.
- Bring the following clamp against the mounted clamp.
  The clamps have guiding tracks that hook together.
- Attach the new clamp on tightly against the upper clamp.
- Open the clamp.
- Place the locknut with locking side upwards in the lower part.
- Place hose/cable. Tighten the clamp with the correct tightening torque, <10 Nm.

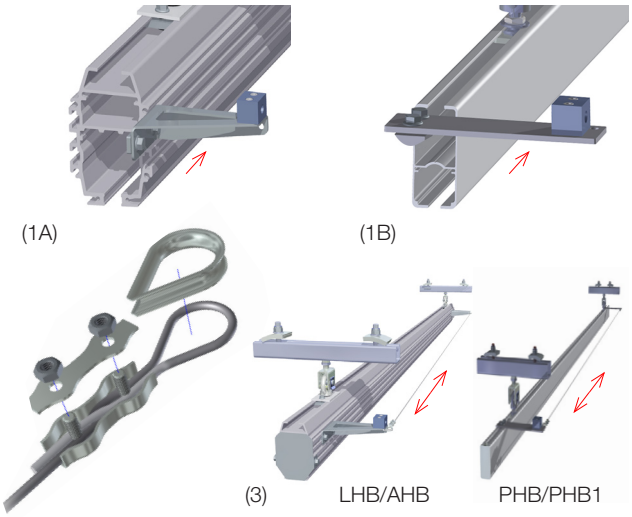
Wire brackets

1A. LHB, AHB:
Enter the two T-slot nuts in the exterior T-slots of the profile.
Fit the console in desired position.

1B. PHB, PHB1:
Enter the mounting plate (PHB: groove nut) in the slot on top of the profile. Fit the console in desired position.

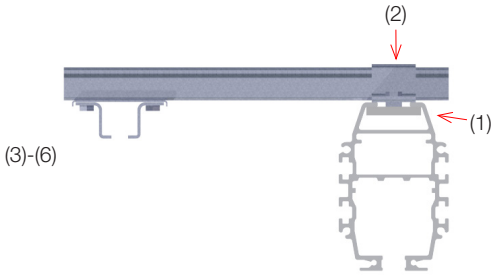
2. Install the wire. Ensure that the wire is crossed in the wire clamp, and tighten the bolts with the correct tightening torque, 5 Nm.

3. Make sure that the wire is taut between the consoles. Tighten the bolts of the consoles with the correct tightening torque, 24 Nm.



C rail

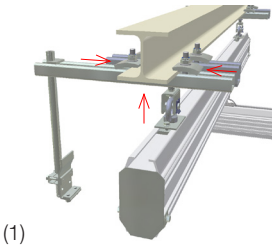
1. Insert the console plate in the upper T-slot of the profile. Position all consoles with suitable suspension distance (c/c max 2000 mm).
2. Tighten the fastening elements of the console with the correct tightening torque, 24 Nm.
3. Insert the C rail in the outer bracket of the consoles. Tighten if necessary the fastening elements of the bracket with the correct tightening torque, 24 Nm.
4. Install ev. joints and additional C rails.
5. Insert the cable trolleys in the C rail.
6. Install end stops and end covers in both ends of the C rail.



Components for cable chain

Beam suspension

1. Place the suspension at the point of suspension. Guide the clamps onto the girder flange, making sure that the short end of the clamp is inserted over the flange. Tighten the clamps just enough so that the suspension can be fine adjusted on the point of suspension. Tighten the clamps with the correct tightening tourque, 81 Nm.
2. Place the media profile in the suspensions.
3. Tighten the bolts on the underside with correct tightening tourque, 24 Nm.



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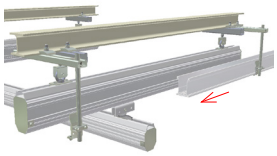

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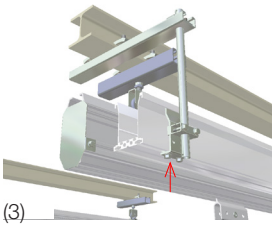
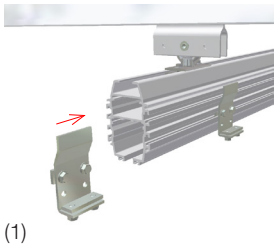


(3)

Rail suspension

1. Insert the suspension T-slot nut into the rails lower exterior T-slot. Tighten the suspensionwith the correct tightening tourque, 24 Nm.
2. Place the media profile in the suspensions.
3. Tighten the bolts on the underside with correct tightening tourque, 24 Nm.



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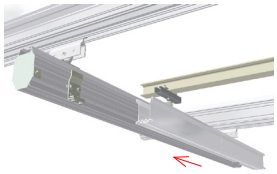

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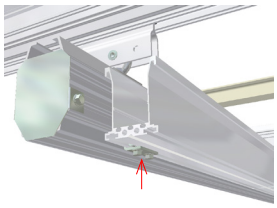
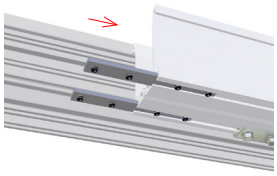


(3)

Joint sets

1. Insert the T-slot nuts into the slots on the underside of the media profile, place the nuts below the splice.
2. Bring the rail to be connected against the splice, make sure the edges are flush. Tighten the bolts with correct tightening tourque, <10 Nm.



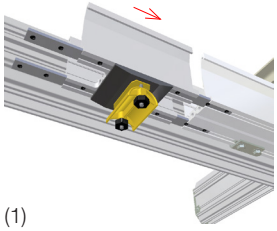
(1)

(2)

Cable & hose inlet

Install end fix and chain first.

1. Insert the T-slot nuts into the T-slots of the suspened media profile. Tighten the stop screws with the correct tightening torque, <10 Nm.
2. Bring the rail to be connected against the inlet, make sure the edges are flush. Tighten the stop screws with the correct tightening torque, <10 Nm.

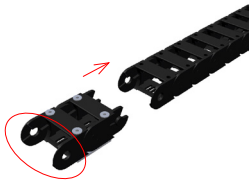


(1)

(2)

End fix / cable chains

1. Bring together the end fix and cable chain. Make sure that the end fix holed part out from the chain.
2. Place the cable chain into the media profile.
3. Bring on the end fix nuts into the media profile interior T-slot. Tighten the end fix with correct tightening tourque; 8,1 Nm.
4. Raise the other end towards the towing arm and snap chains together.



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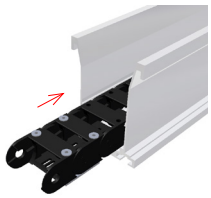

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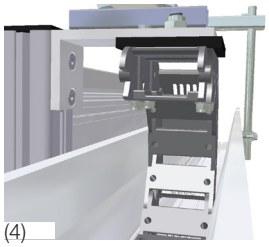

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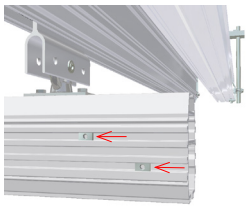
Cable towing arms

1. Insert two T-slot nuts in the rails exterior T-slot, one in the upper, one in the lower.
2. Adjust the towing arm so that the cable chain is centered over the media profile. Tighten the towing arm with correct tightening tourque, 24 Nm.



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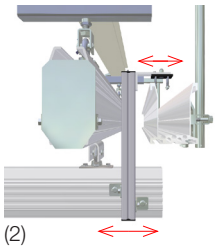
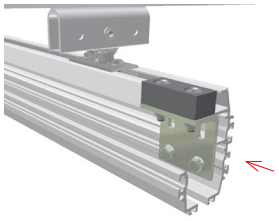


(2)

Supporting blocks

1. Place the lower part of the block onto the rails upper T-slot, place it directly under the trolley.
2. Place the upper part of the block inside the trolley, mate the holes. Tighten the bolts with the correct tightening torque, 24 Nm.
3. Insert the pin and secure it with the cotter.



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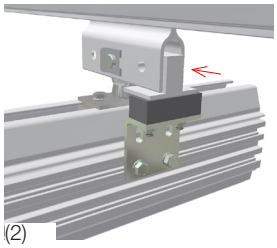

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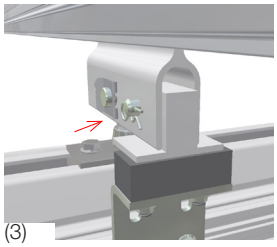
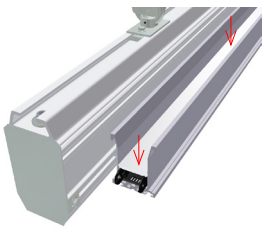


(3)

Cover

Place the cover on the cable chain in the profile.



Air preparation units

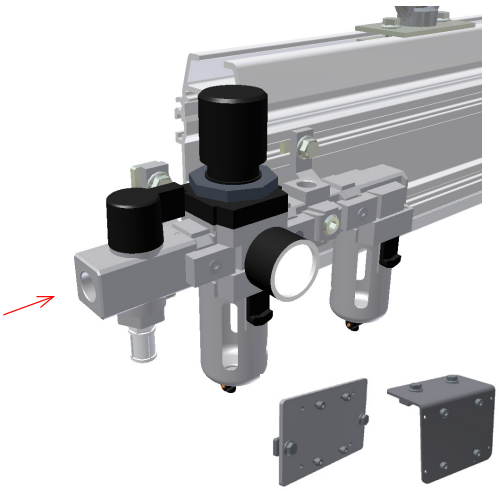
Before mounting the air preparation unit, the lines should be carefully cleaned of contaminants.

The units shall be mounted with the reservoir down, so that the air will flow in the direction of the arrow marking.

- Insert the air preparation units T-slot nuts in the rails upper exterior T-slot. (PHB1: Enter the mounting plate in the slot on top of the profile.)
- Bring the unit to the desired position. Tighten the bolts with the correct tightening torque, 24 Nm.

Pressure regulation

- Pull the adjusting knob all the way out.
- Rotate to desired pressure. Lock regulating value by pressing on the knob. (To facilitate pressure regulation, at least 60 mm clearance is needed around the adjusting knob.)

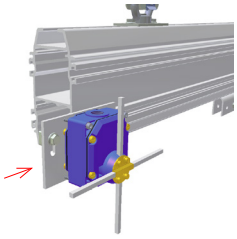


LHB/AHB *PHB1*

Limit switches

1. Insert the limit switch's T-slot nuts into the rails exterior T-slot (PHB1: mounting on top of profile). Bring the limit switch to the desired position. Tighten the limit switch with the correct tightening torque, 24 Nm.
2. Install the trigger on the trolley.
3. Connect the limit switch electrically.

NOTE: Electrical installation may be performed only under the supervision of a qualified electrician!



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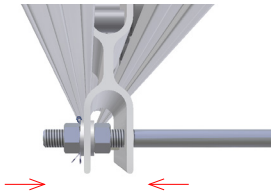

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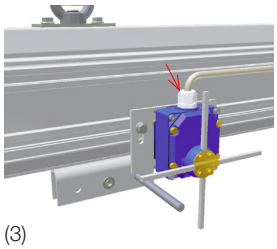
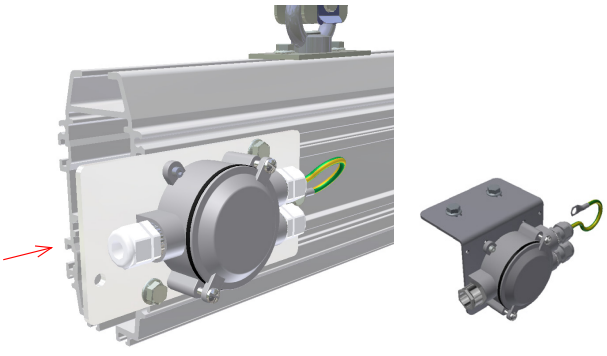


(3)

Coupling units and fuse boxes

- Insert the coupling unit's two T-slot nuts in the rails exterior T-slot, one in the upper, one in the lower (PHB1: mounting on top of profile).
- Bring the coupling unit to the desired position. Tighten the coupling unit with the correct tightening torque, 24 Nm.
- Connect the coupling unit electrically.

NOTE: Electrical installation may be performed only under the supervision of a qualified electrician!



PHB1

Earthing cable

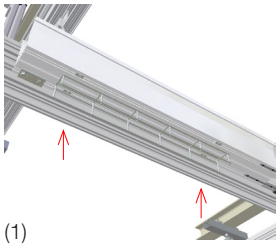
Used for earthing and potential equalisation between sections/rails or between section/rail and earthed building component.

For a connection against a painted surface, the paint must be removed in order to obtain sufficient contact.

NOTE: Electrical installation should be performed only under the supervision of a qualified electrician!

Cable tray

1. Insert the T-slot nuts into the media profiles T-slot underneath and place the cable tray towards the profile.
2. Attach the brackets and tighten them with the correct tightening torque, 24 Nm.



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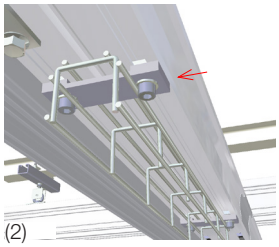


(2)

Installation protocol

The protocol is an acknowledgement that the equipment has been installed according to Movomech's instructions and must be filed by the customer. The protocol is intended to be completed by the installer during installation if he has not been trained by Movomech.

Place:

Date:

Equipment number:

Installer:

	Installed	*Not installed*	
Suspensions / Rail profiles			*Comment:*
Trolleys			
End stoppers			
End covers			
Crane girder suspensions			
Joint sets			
Spacers for double crane			
Spacer plates for telescopic cranes			
Space savers for cranes			
Triangulary stay			
Distance bar			
Travel limits			
Friction roller			
Earthing cable			
Safety wires			
Air preparation units			
End fix			
Cable towing arms			
Cable trolleys			
Cable & hose clamps			
Wire brackets			
C rail			
Suspensions / Media profile			
Joint sets			
Cable & hose inlet			
End fix			
Cable chains			
Cable towing arms			
Supporting blocks			
Cable tray			
Cover			
Limit switches			
Coupling units			
Parking brakes			

The equipment has been installed according to the instructions:

.....

Place, date and signature of the installer

Service

A general review and functional control tests are performed on a regular basis during commissioning.

All service and maintenance shall be recorded. The user should make sure that material for the purpose is easily available.

NOTE: Make sure that damaged components are replaced immediately in order to avoid possible personal and material damage.

Do not connect the equipment until the workplace is cleaned. This is important for the comfort and well-being of personnel and facilitates service and maintenance.

Dirt gives a clear indication of the equipment not being properly maintained, which may possibly affect the remaining guarantees on the equipment.

Maintenance safety instructions

The prescribed procedures and service intervals, including those concerning the replacement of parts/accessories, are described in the instruction manual and must be followed. Professionals are the only persons who are allowed to carry out such procedures.

Staff members with appropriate competence and authority are the only persons who are allowed to carry out mechanical and electrical repair and maintenance work. Unauthorised persons should be prohibited to work with machines and devices inside the equipment.

The equipment should be disconnected and secured against unintentional or unauthorised use, including reconnection, during all repair and maintenance work.

It should be cofirmed that the equipment is free from voltage before any work on electric equipment is commenced.

Make sure that:

- the main power supply is disconnected,
- moving parts are stationary and locked,
- moving parts cannot move accidentally during maintenance work, and that
- it is not possible to accidentally reconnect the power supply during maintenance and repair work.

Use safe and environmentally friendly maintenance products and spare parts!

Directions for work during operation

The user or the ”authorised person” must, in each individual case, ensure that the work in question can be carried out without any risk of personal injury because of specific local conditions.

To prevent accidents, only approved and suitable tools and aids may be used during maintenance, adjustment and repair work.

Do not touch rotating parts. Maintain an adequate safe distance between yourself and the machinery to prevent clothes, limbs and hair from becoming caught.

Avoid the occurrence of naked flame, extreme heat (e.g. welding) and sparks in the presence of volatile cleaning materials and nearby inflammable or heat-sensitive materials (e.g. wood, plastics, oils, fats and electric equipment). This can result in fire hazard, harmful gases and damaged insulation.

Directions for work with electric equipment

Use only original fuses with the appropriate rating. The equipment should be stopped immediately on discovery of faults related to the electric power supply.

Defect fuses must not be repaired or bypassed and should only be replaced with fuses of the same kind.

Work on electric equipment and electric components or parts must be carried out by an electrician or authorised staff in accordance with current electric safety regulations.

The parts of the equipment on which inspection, maintenance, and repair work is to be carried out should be disconnected from the power supply.

The electrical equipment should be inspected regularly. Deficiencies, such as loose connections, should rectified without delay.

When it is necessary to work with live parts, a second member of staff, whose responsibility it is to activate the emergency stop and deactivate the main switch in case of an emergency, should be called in. Isolate the work area with a red/white chain or tape and warning signs. Use only voltage-insulated tools.

Electric connectors must be free of voltage (exemptions include socket-outlets, unless safety precautions state that these are dangerous to be in contact with) before they are disconnected or connected.

Directions for work with pneumatic equimpent

The equipment should be stopped immediately on discovery of faults related to the air supply.

Work on pneumatic equipment or parts must only be carried out by authorised staff.

The parts on which inspection, maintenance, and repair work is to be carried out should be disconnected from the air supply.

Maintenance of the equipment

Each product has specific directions for service, maintenance and care. In the service protocol, there is information and the references needed for managing the product.

All preventive maintenance, service and repair should be recorded. The service procedures should always be used. If more than one rail system exists, each one shall be provided with an Identity number or other designation. Separate maintenance records should be kept for each sysem.

The service protocol shall be kept by the client/user and must be shown to Movomech on request.

Service protocol

The protocol is an acknowledgement that the equipment has been serviced according to Movomech's instructions and must be filed by the customer.

Place:

Date:

Equipment number:

Service technician:

	Interval in months at 1 shift	Interval in months at >1 shift	
Suspensions / Rail profiles	3	2	👁 👂 ✋ 🛠 ⓘ
Trolleys	3	2	👁 👂 ✋ ⓘ
End stoppers	3	2	👁 ✋ 🛠
End covers	3	2	👁 🛠
Crane girder suspensions	3	2	👁 ✋ 🛠
Joint sets	3	2	👁 👂 ✋ 🛠 ⓘ
Spacers for double crane	3	2	👁 ✋ 🛠
Spacer plates for telescopic cranes	3	2	👁 ✋ 🛠
Space savers for cranes	3	2	👁 ✋ 🛠
Triangulary stay	3	2	👁 ✋ 🛠
Distance bar	3	2	👁 ✋ 🛠
Travel limits	3	2	👁 👂 ✋ 🛠 ⓘ
Friction roller	3	2	👁 ✋
Earthing cable	3	2	👁 ✋ 🛠
Safety wires	3	2	👁 ✋ 🛠 ⓘ
Air preparation units	1	1	👁 👂 ✋ 🛠 ⓘ
End fix	3	2	👁 ✋ 🛠 ⓘ
Cable towing arms	3	2	👁 👂 ✋ 🛠 ⓘ
Cable trolleys	3	2	👁 ✋ 🛠 ⓘ
Cable & hose clamps	3	2	👁 ✋ 🛠 ⓘ
Wire brackets	3	2	👁 ✋ 🛠
C rail	3	2	👁 ✋ 🛠
Suspensions / Media profile	3	2	👁 ✋ 🛠
Joint sets	3	2	👁 ✋ 🛠
Cable & hose inlet	3	2	👁 ✋ 🛠
End fix	3	2	👁 ✋ 🛠
Cable chains	3	2	👁 👂 ✋ ⓘ
Cable tray	3	2	👁 ✋ 🛠
Cable towing arms	3	2	👁 ✋ 🛠
Supporting blocks	3	2	👁 ✋ 🛠
Cover	3	2	👁
Limit switches	1	1	👁 ✋ 🛠 ⓘ
Coupling units	1	1	👁 ✋ 🛠 ⓘ
Parking brakes	3	2	👁 👂 ✋ 🛠

👁 Visual inspection, examine whether the product exhibits damages

👂 Auditory inspection, examine whether the product exhibits discordant sound

✋ Physical inspection, examine whether the product exhibits damages

🛠 Mechanical inspection, examine whether the product exhibits decomposition, instrument is needed

ⓘ Additional information available

Comment:

The equipment has been serviced according to the instructions:

.....

Place, date and signature of the service technician

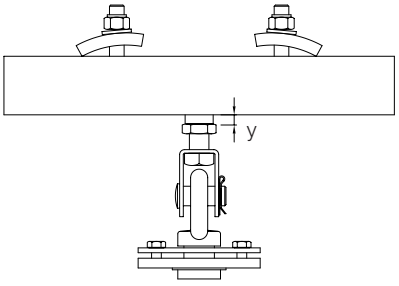
Additional information

Rail profiles	Clean running surface in the profile where the trolley moves. The surface shall be clean and dry. Dirty and greasy running surfaces will inevitably affect performance. Use a clean and dry wiping cloth.
Suspension	Check for wear on the suspension type A & B according to the description below.
Trolleys	Check that the trolley runs quietly and without difficulty along the entire section.
Crane girder suspensions	For PHB1 & AHB, check for wear on the crane girder suspension according to the description below.
Joint sets	Make sure that the runway is flat over the splice, test with trolley.
Travel limits	Limit switches with hydraulic dampers are also checked with regard to leakage.
Safety wires	Check that the safety wires are relaxed and without load.
Air preparation units	Filter: Open the blowdown valve from time to time to blow out collected condensate. Do not allow the liquid level to reach the vortex disk. In case of malfunction, check that the direction of flow is correct. If the flow decreases substantially or the pressure drop increases sharply, the filter element should be cleaned or replaced. Filter element is replaced when the pressure drop across the filter reaches 0.1 MPa, and at least once a year. Pressure regulator: In case of malfunction, check that: a) the primary pressure is higher than the regulated secondary pressure. NOTE: Also in throughflow. b) the seat of the main valve is not clogged. c) membrane or spring has not been damaged. If unregulated air flows through the regulator, this is a sign of membrane damage.
Cable trolleys	Check that the trolleys runs quietly and without difficulty along the entire section.
Cable towing arms	Check whether cables or hoses are damaged.
End fix	Check whether cables or hoses are damaged.
Cable & hose clamps	Check whether cables or hoses are damaged.
Cable & hose inlet	Check whether cables or hoses are damaged.
Cable chains	Check whether cables or hoses are damaged.
Coupling units	Check whether cables are damaged.
Limit switches	Check that the intended function is obtained.

Specific wear check

Suspension type A & B

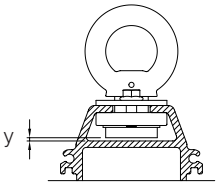
	Delivered *y*[mm]	Cassation *y*[mm]
PHB, LHB, PHB1, AHB1.1-2	*7,5*	*⩾9,0*
AHB3	*11,0*	*⩾12,5*



Besides this wear check, a general check of the suspension an its fastening elements according to the service protocol is required.

Crane girder suspension type A

	Delivered *y*[mm]	Cassation *y*[mm]
PHB1, AHB1.1-2	*1,0*	*⩾2,0*
AHB3	*2,5*	*⩾3,5*



New
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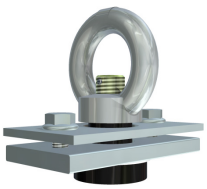
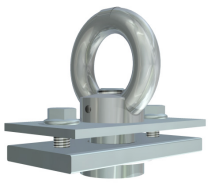


Old version
730379
y[mm] *⩾4,5*



Besides this wear check, a general check of the crane girder suspension an its fastening elements according to the service protocol is required.

Wear gauge
For information about gauge, please contact Movomech.

Troubleshooting

Getting started

The rail system's performance can be affected by a number of factors. If the system fails to function as desired, the following flow diagram shall be followed in order to diagnose the problem.

Begin by pulling the load with a tension load gauge in order to determine how large a starting torque or driving torque is needed for transfer of the load.

It is generally valid for Movomech's rail system that the starting force required is 1-1.5% of the transferred load's total weight (including incoming rail components, the hoist and tools weights). The force required to keep rolling is less than 1%.

If the rail system is supplied with a energy system, the load increases by about 1-2 kg.

Customer-specific load cases can affect the required starting and driving force.

#	Problem	See condition
1	Fixture, hoist, arm or crane do not roll evenly over the entire runway length.	A-B-C-D-E-F-G-H-I-J-K
2	Fixture, hoist, arm or crane roll evenly in certain sections but unevenly in other sections of the same runway length.	A-B-C-D-F
3	Fixture, hoist, arm or crane do not want to continue to roll evenly after having started up.	A-B-D-F-G-H-I-K
4	Fixture, hoist, arm or crane get stuck in spliced sections or suspensions.	E
5	Fixture, hoist, arm or crane are tilted or rotate around their horizontal axle (the double crane becomes a parallellogram) and get stuck or run sluggishly.	B-C-D-E-F-G-H-I-K
6	Fixture, hoist, arm or crane behave erratically and jerkily in motions.	A-D-F-G-H-K
7	Fixture or hoist on a displaced crane, a telescoping crane swings on the loaded track rails and causes the opposite side of the crane to rise up, resulting in the tool or fixture being unable to perform correctly. The suspensions on the opposite side and trolleys rotate and lock the crane.	J
8	Fixture, hoist or arm stick in the middle of the span on the crane or the crane between longitudinal suspensions, and cannot be parked anywhere along the runway.	B-D
9	Fixture, hoist, arm or crane are unstable, are warped and act loose along the runway and bind periodically.	C-E-I
10	Fixture, hoist, arm or crane get stuck on a section of the rail where no hangers, stops or splices are found.	B-C-D
11	Fixture, hoist, arm or crane trolleys are worn out and/or break constantly.	E-F-H-I

#	Condition
A	**Is the runway free from oil, grease and dirt?** Yes – Check next item. No – Clean the inside of the rail where the trolley moves. Dirty or greasy runways will inevitably affect the performance. Grease or oil can temporarily loosen a binding section, but only hides the problem and will at times cause greater resistance by attracting dirt and debris to the runway and trolley wheels. Moreover, grease and oil applied to the rail will fall on personnel and products.
B	**Is the track mounted parallel within ± 0,5‰ and in alignment within ± 10mm?** Yes – Check next item. No – Make sure that the system is in alignment and vertical. When a system is properly installed and the right accessories are used, one can rely on the text above.
C	**Are both track rails free to oscillate around their longitudinal axis on the suspension points?** Yes – Check next item. No – Install the correct crane girder suspensions between the suspensions and the track rail. The crane girder suspension should be able to roll and swivel. The track rail should be able to swing back and forth in its suspension.
D	**Does the crane go free from supplementary equipment such as air hoses, spiral hoses, electric cables, drive units and locking mechanisms?** Yes – Check next item. No – Release resistance from external components. Equipment such as air hoses, spiral hoses, electric cables, mechanical stops, control panels, electronic cabinets and drive units can all affect the performance.
E	**Are splice sections straight and in alignment? Are the runway and the splice sections in the same plane and the rails brought together? Are the splice sections properly mounted?** Yes – Check next item. No - Check that the splices have been installed properly. Check the installation against the manual.
F	**Do the trolleys move easily and quietly? Do the trolleys roll without wobbling? Do the wheels rotate around the centre of the wheel axle?** Yes – Check next item. No – Clean the wheel.
G	**Is the surface on the trolley wheels smooth and even?** Yes – Check next item. No – Dismantle the trolleys from the rail and inspect. Look for damage, debris and bearing wear. When damage, debris or bearing wear are determined, replace the entire wheel. The wheel must not wobble more than 0.1 mm. It must rotate freely and evenly without any problem.
H	**Are the trolleys on the same rail in line with each other and the rail?** Yes – Check next item. No – Check whether any spacers (on the carrier axle in the trolley, between the trolleys's interior and the crane girder suspension) are properly mounted. Adjust as needed.

I	**Is the C/C-dimension for the track the same as the C/C-dimension for the suspensions on the crane?** Yes – Check next item. No – The C/C-dimension between the track rails should be identical to the C/C-dimension between the crane girder suspensions on the crane rails with a tolerance of ±0,5‰. The crane should be perpendicular and the trolleys shall be in line with each other.
J	**Have the proper suspension types been used for the rail system (compact-mounted to avoid tilting with shifted load point)?** Yes – Check next item. No – Check that compact-mounted rails have been installed satisfactorily.
K	**Is the rail system in good condition and free from damages?** Yes – Contact Movomech for consultation. No – Replace damaged components.

Revision list

2016-11-01

Nr	Description	Page	
1	Updated height profile combinations	7	2015-05-01
2	Corrected load table for PHB	10	2015-05-01
3	Updated max length spiral hose	12	2015-05-01
4	New article numbers PHB profiles, new profile image	15, 18	2015-05-01
5	PHB suspensions replaced by LHB suspensions	16-18	2015-05-01
6	FB measure updated suspension type C	17	2015-05-01
7	Z measure corrected suspension type E	18	2015-05-01
8	Crane suspension PHB replaced by LHB	19	2015-05-01
9	New article number end stop and joint set PHB	22	2015-05-01
10	Crane suspension and wire PHB replaced by LHB	23	2015-05-01
11	Crane suspension type C added	23	2015-05-01
12	Distance for telescope PHB replaced by LHB	24	2015-05-01
13	Maintenance hatches for AHB1.1 and AHB2 added	24, 45	2015-05-01
14	Travel limits type B double and type E added	25, 44	2015-05-01
15	Z measure build up modules updated	27	2015-05-01
16	FRL mounting plate for PHB1 added	28, 51	2015-05-01
17	New article number wire console PHB	30	2015-05-01
18	Limit switches for PHB1 added	32, 51	2015-05-01
19	Coupling units for PHB1 and coupling unit type D added	32, 51	2015-05-01
20	Article number for max load decals added	33	2015-05-01
21	General: updated instructions where PHB components are replaced by LHB components	38-52	2015-05-01
22	Clarified instruction image for end stop PHB1 (sleeve)	42	2015-05-01
23	Updated tensioning torque for end stops	42	2015-05-01
24	Corrected diameter dimension, double trolleys, new article numbers	20	2016-10-01
25	New article numbers for safety wires for double trolleys	23, 43	2016-10-01
26	New air preparation unit	28	2016-10-01
27	Fuse boxes added	32	2016-10-01
28	Updated formula, spiral hose	33	2016-10-01
29	Updated flange clamp	38-40	2016-10-01
30	Korrigerat lasttabell (LB PHB1) och lastdiagram (LHB dubbelvagn).	9-10	2016-11-01

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