ROLLYX

Smooth-Running Rail System

SR 100 • SR 150 • SR 200 • SR 250 • SR 175M

Planning
and Project Engineering

ROLLYX - CATALOGUE

Planning and Project Engineering

1.0 General description

The ROLLYX aluminium rail system was developed as a construction system to create rail lines and X/Y smooth-running crane installations for a load range up to 2000 kg.

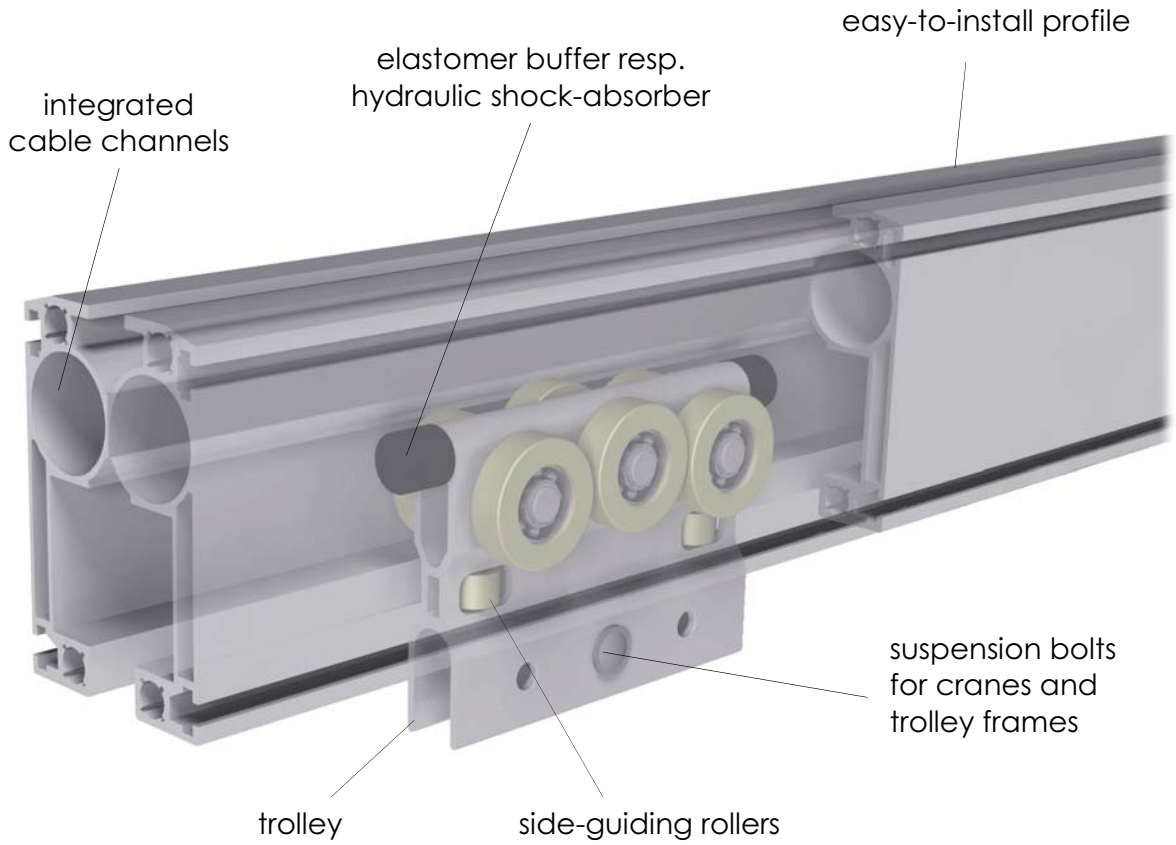
Using this system suspension crane installations can be arranged quickly and easily. The application spectrum reaches from a straight connection of two workplaces with just a few meters traveling distance, as well as large-area transport with a simple and easy hand-guiding to systems for automatic operation.

The components of the ROLLYX aluminium rail system can easily be adapted to individual performance requirements.

The base of the system is an anodised high-precision multi-chamber aluminium profile of fivefold stability grading. Special trolleys with ball-bearing plastic rollers and side-guiding rollers stand for a non-canting running performance of best smoothness.

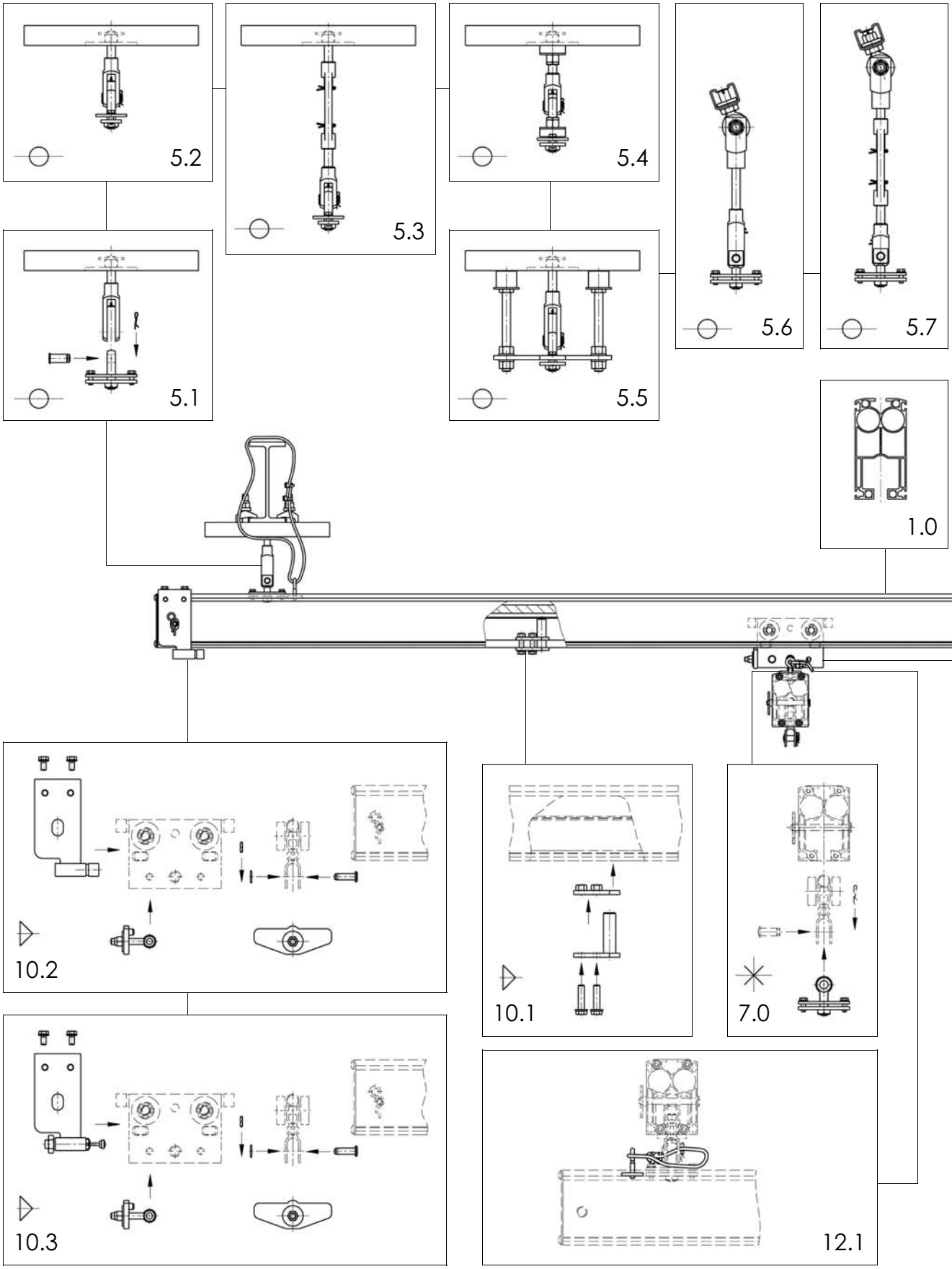
The system is rounded off by accessory components, such as universal suspensions, sets for rail connection and end stops as well as for power supply.

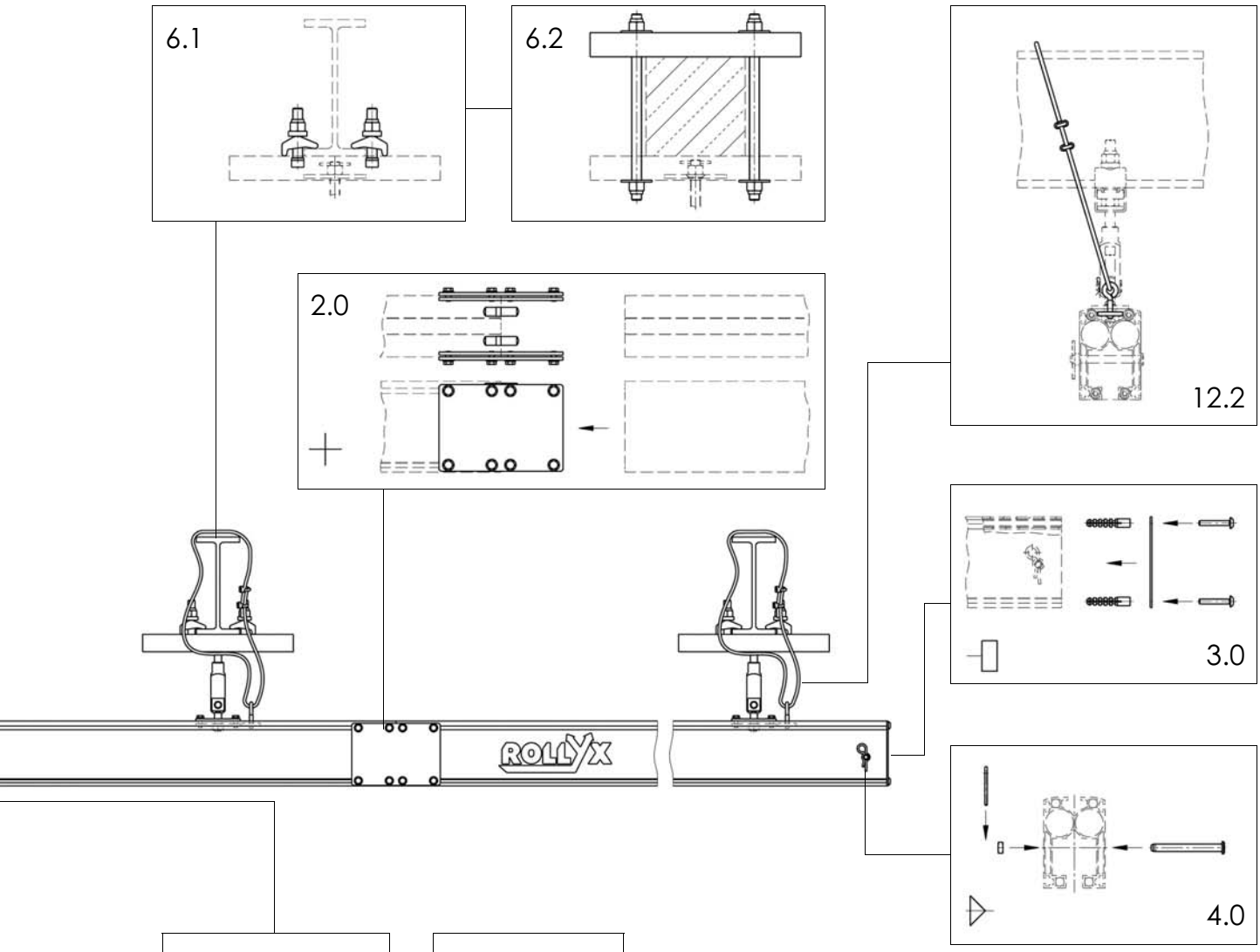
This technical document covers all details required for planning and project engineering. Appropriate accessories can be taken from the complementing catalogue "ROLLYX Supplies".

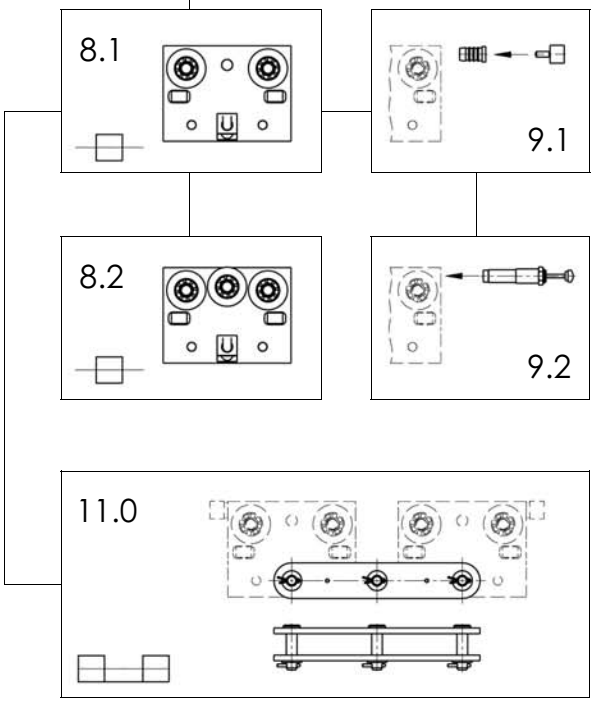


2.0 Contents

3.0 Set-up and components







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4.0 Limit load, suspension distances, thrust forces

In order to determine the required profile size resp. the maximum suspension distance $l_{0,}$ the total load G_0 is the basic value.

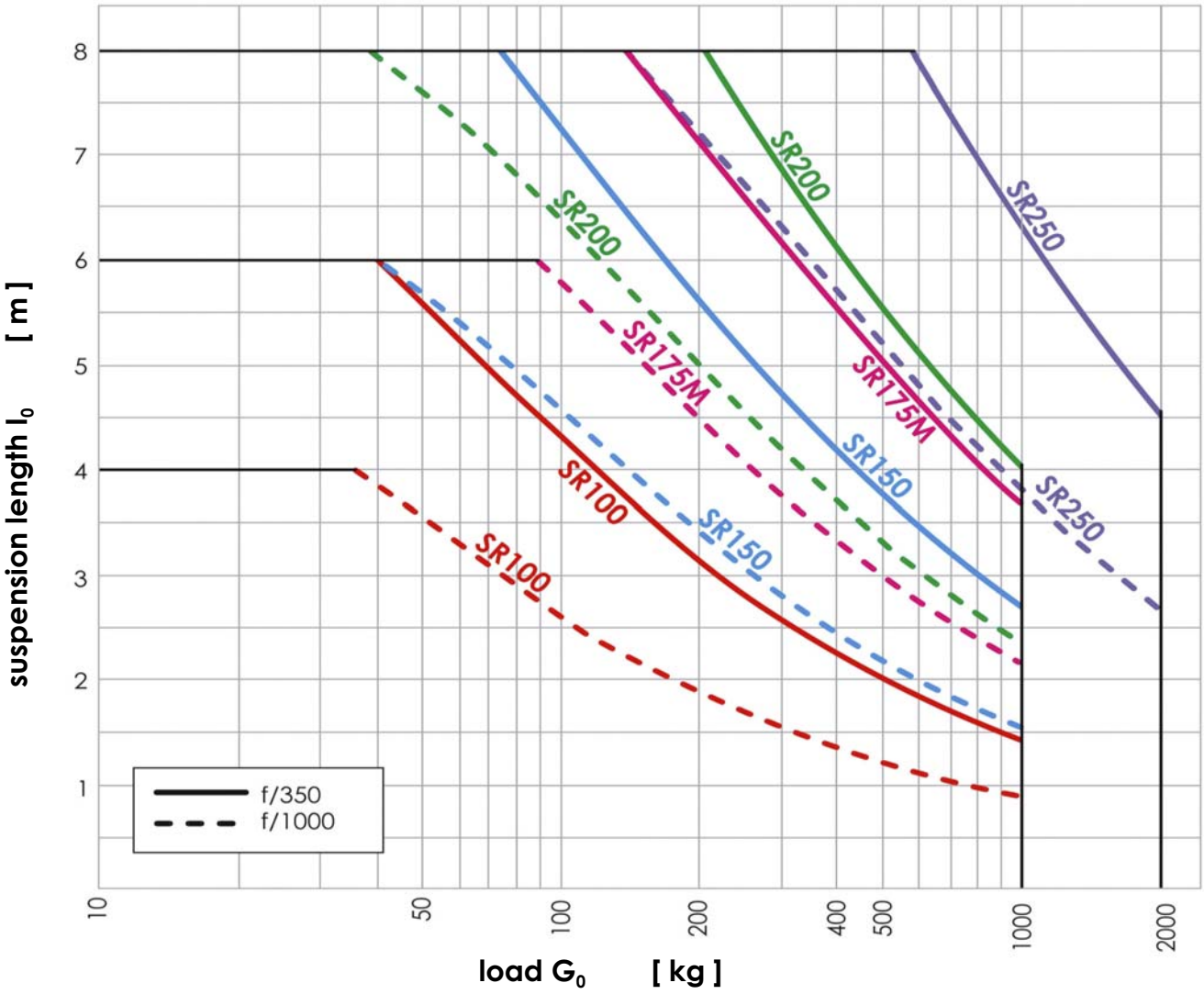
G_0 is equal to the sum of loads which may put pressure on a rail section placed in the centre of two suspension points (length l_0):

$$G_0 = G_{LOAD} + G_{LOAD\ PICKING} + G_{LIFTING\ DEVICE} + G_{TROLLEY} + G_{CRANE\ BRIDGE}$$

In due consideration of the maximum safe working load for trolley frames as well as of the suspensions a selection can be effected in accordance with the following diagram.

Compliance with allowed rail overhang and distances of rail joints must be observed.

Limit load diagram for SR 100 • SR 150 • SR 200 • SR 250 • SR 175 M

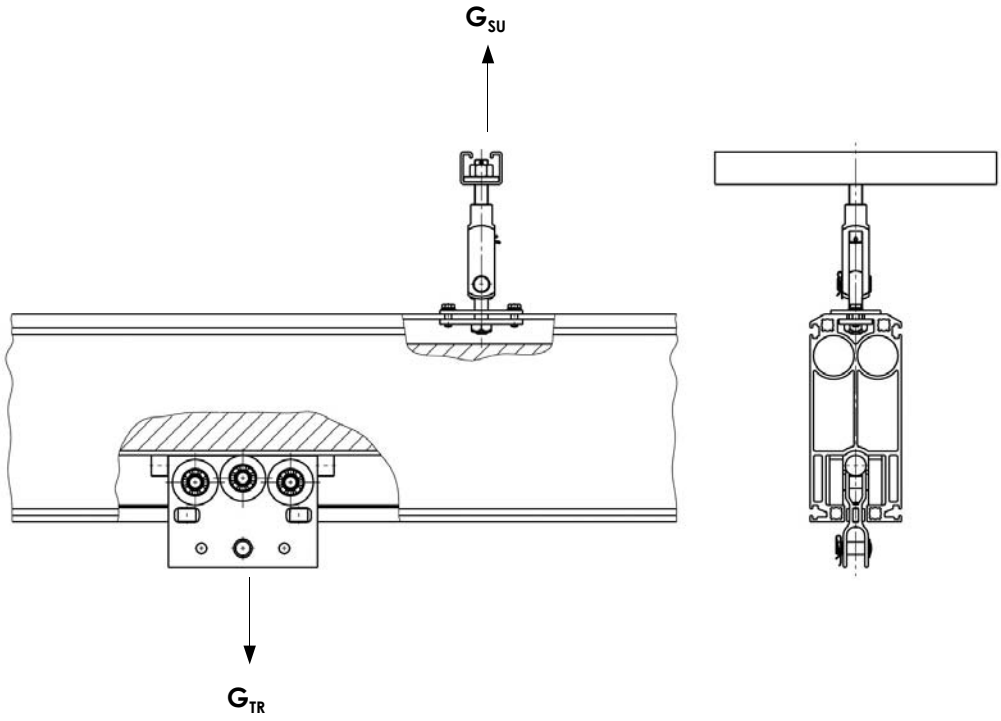


Limit load curve deflexion	f = 1/ 350	- only suitable for chain hoist applications
Limit load curve deflexion	f = 1/1000	- suitable for handling manipulators

Permissible load of suspensions G_{SU}

Tensile load for rail type:

SR 100:	max. G_{SU}	=	700 kg
SR 150 / SR 200:	max. G_{SU}	=	1400 kg
SR 250 / SR 175 M	max. G_{SU}	=	2000 kg



Permissible load of trolleys G_{TR}

Tensile load for rail type:

SR 100:	max. G_{TR}	=	400 kg
SR 150 / SR 200:	max. G_{TR}	=	700 kg
SR 250 / SR 175 M:	max. G_{TR}	=	700 kg
SR 250 / SR 175 M (double):	max. G_{TR}	=	1400 kg

Pressure load against optional support rollers for rail type:

SR 100:	max. G_{TR}	=	200 kg
SR 150 / SR 200:	max. G_{TR}	=	350 kg
SR 250 / SR 175 M:	max. G_{TR}	=	350 kg
SR 250 / SR 175 M (double):	max. G_{TR}	=	700 kg

Min. achievable / max. permissible rail overhang L_{ov}

The minimum achievable rail overhang with regard to the last suspension and in dependence of rail type adds up to:

SR 100:	min. L_{OV}	=	150 mm
SR 150 / SR 200:	min. L_{OV}	=	150 mm
SR 250 / SR 175 M:	min. L_{OV}	=	150 mm

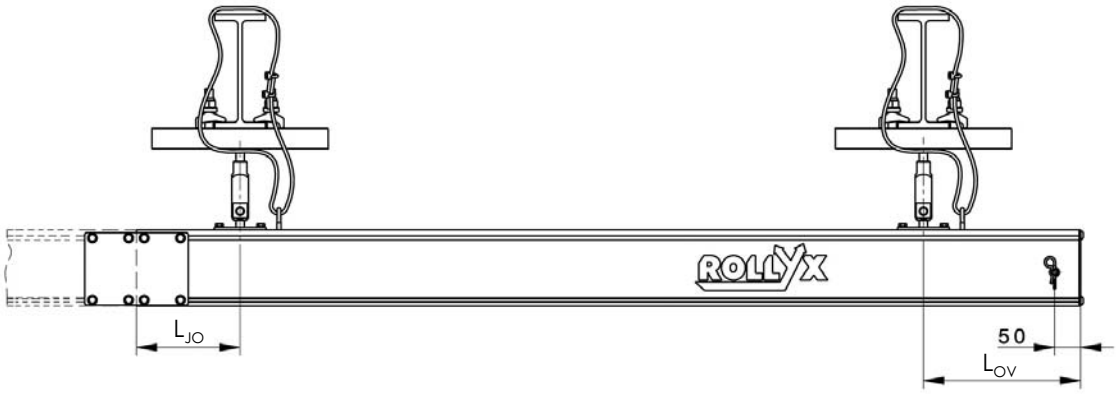
The max. permissible rail overhang for the ROLLYX-rail system is defined in a way that the centre of gravity of the load does not extend over the outer suspension and thus cause tip-up of the unit. The values given below are defined by the width of a single trolley, higher excess lengths e.g. for reasons of energy supplies or wider trolley frames, can be realised under consideration of stability (1,2 times safety against tipping).

The maximum permissible rail overhang to the last suspension and in dependence of rail type comes up to:

SR 100:	max. L_{OV}	=	230 mm
SR 150 / SR 200:	max. L_{OV}	=	250 mm
SR 250 / SR 175 M:	max. L_{OV}	=	250 mm

The smallest possible suspension distance from the rail joint for all ROLLYX rail types is L_{JO} = 0 mm.

The maximum permissible suspension distance from the rail joint for all ROLLYX rail types is constantly L_{JO} = 400 mm.



Permissible load of crane bridge suspensions G_{CBS}

Tensile load for rail type:

SR 100:	max. G_{CBS}	=	700 kg
SR 150 / SR 200:	max. G_{CBS}	=	1400 kg
SR 250 / SR 175 M:	max. G_{CBS}	=	2000 kg

Further principles of technical interpretation

All suspensions are flexibly designed and must not be exposed to torque.

Impact loads caused by drives or fast driving motions must be avoided by using suitable shock-absorbers or by corresponding adjustment of acceleration ramp.

The maximum permissible energy absorption per damping stroke comes up to:

Stopper - rubber:	max. W_{ST}	=	15 Nm
Stopper - hydraulic absorber:	max. W_{ST}	=	33 Nm

All runway ends must be secured against runaway of a trolley by employment of travel limitations [assembly group 4]. However, these travel limitations may not be hit in a permanent way such as position stops.

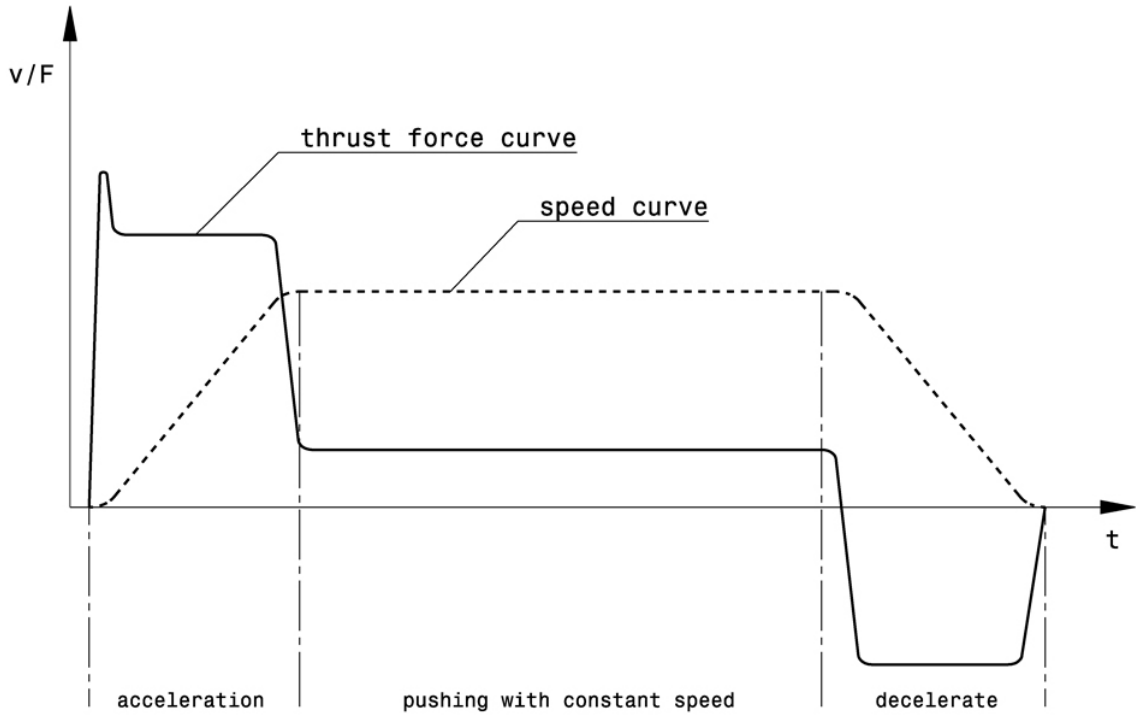
Locking plates may not be used as travel limitation.

Required expenditure of force to move a load:

The required force to move a load is a combination of static, load depending part, the friction resistance during start of motion resp. the wheel friction resistance during movement, as well as a load- and acceleration-dependent dynamic part, the intertia.

Both parts sum up to the presently acting thrust force.

The following diagram shows a typical motion sequence and required thrust forces:



A

calculation of thrust forces can be carried out using the following formula:

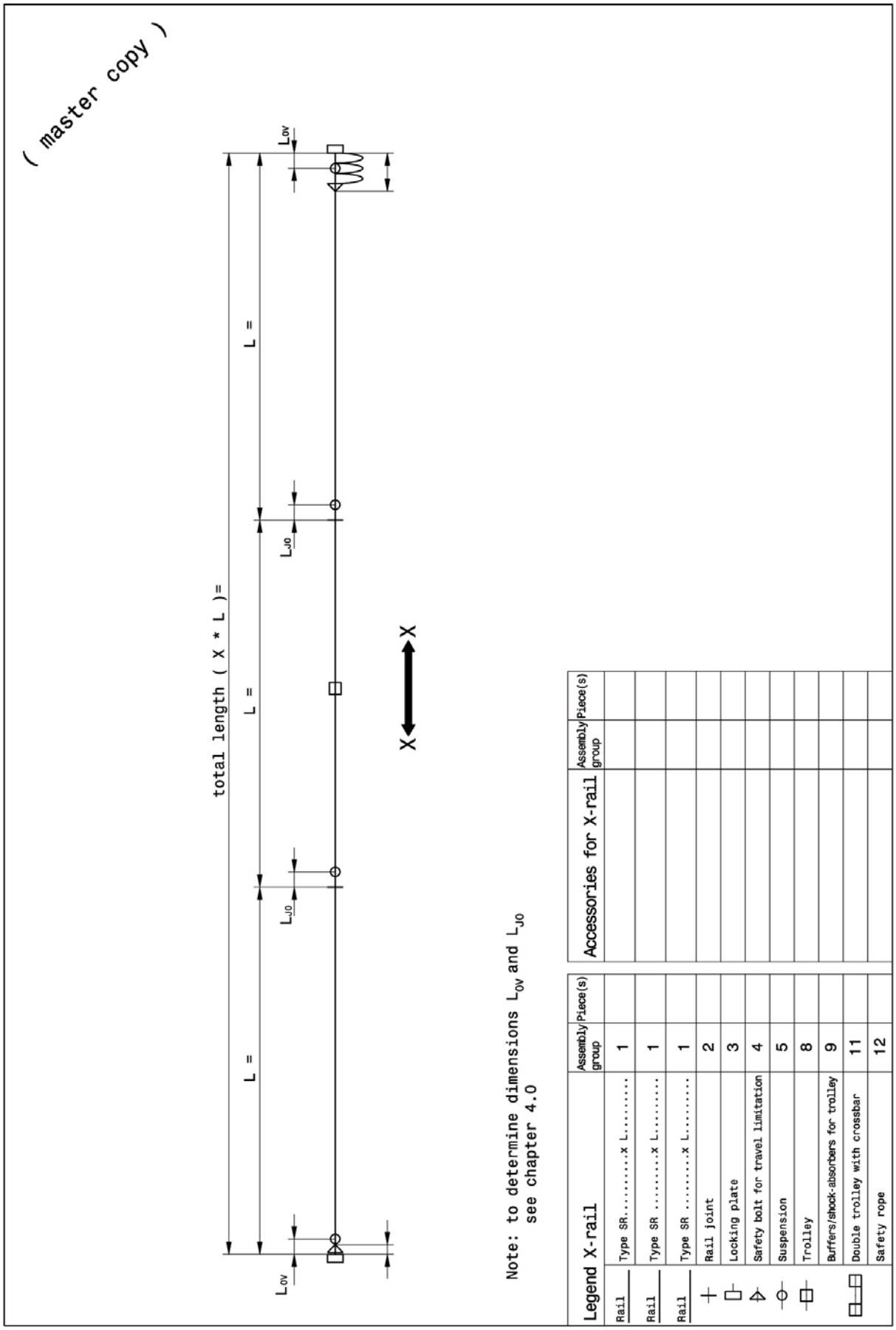
$$F_{THRUST} = (\mu_{STATIC\ /\ WHEEL} * F_{G\ LOAD+CRANE\ BRIDGE}) + (m_{LOAD+CRANE\ BRIDGE} * a)$$

F_{THRUST}	: currently required thrust force in [N]			
$\mu_{STATIC\ /\ WHEEL}$	: static friction factor for the ROLLYX rail system	μ_{STATIC}	=	0,02
	wheel friction factor for the ROLLYX rail system	μ_{WHEEL}	=	0,01
$F_{G\ LOAD+CRANE\ BRIDGE}$	: Sum of hooked up weight forces in [N]			
$m_{LOAD+CRANE\ BRIDGE}$	: Sum of hooked up mass in [kg]			
a	: acceleration in [m/s^2]			
	typical accelerations under load::	10 kg	- a =	2,0 m/s^2
		50 kg	- a =	0,4 m/s^2
		100 kg	- a =	0,2 m/s^2
		500 kg	- a =	0,1 m/s^2

Example : How large is the thrust force to move a load of 100 kg including crane bridge at constant speed?

F_{THRUST} = (0,01 * 1000 N) + (100 kg * 0 m/s^2) = <u>10 N</u>

5.0 Project guideline “Single rail runway with trolley”



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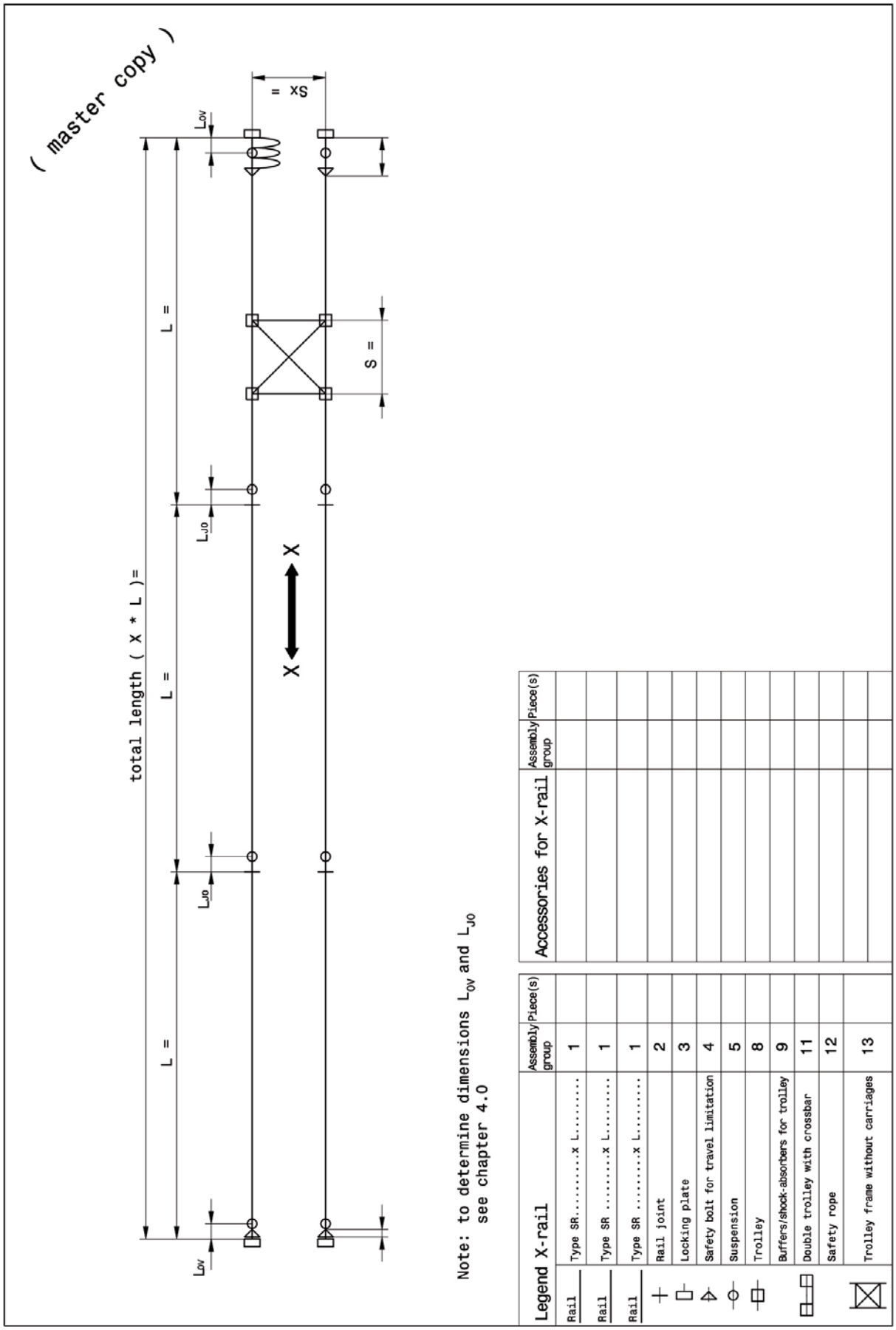
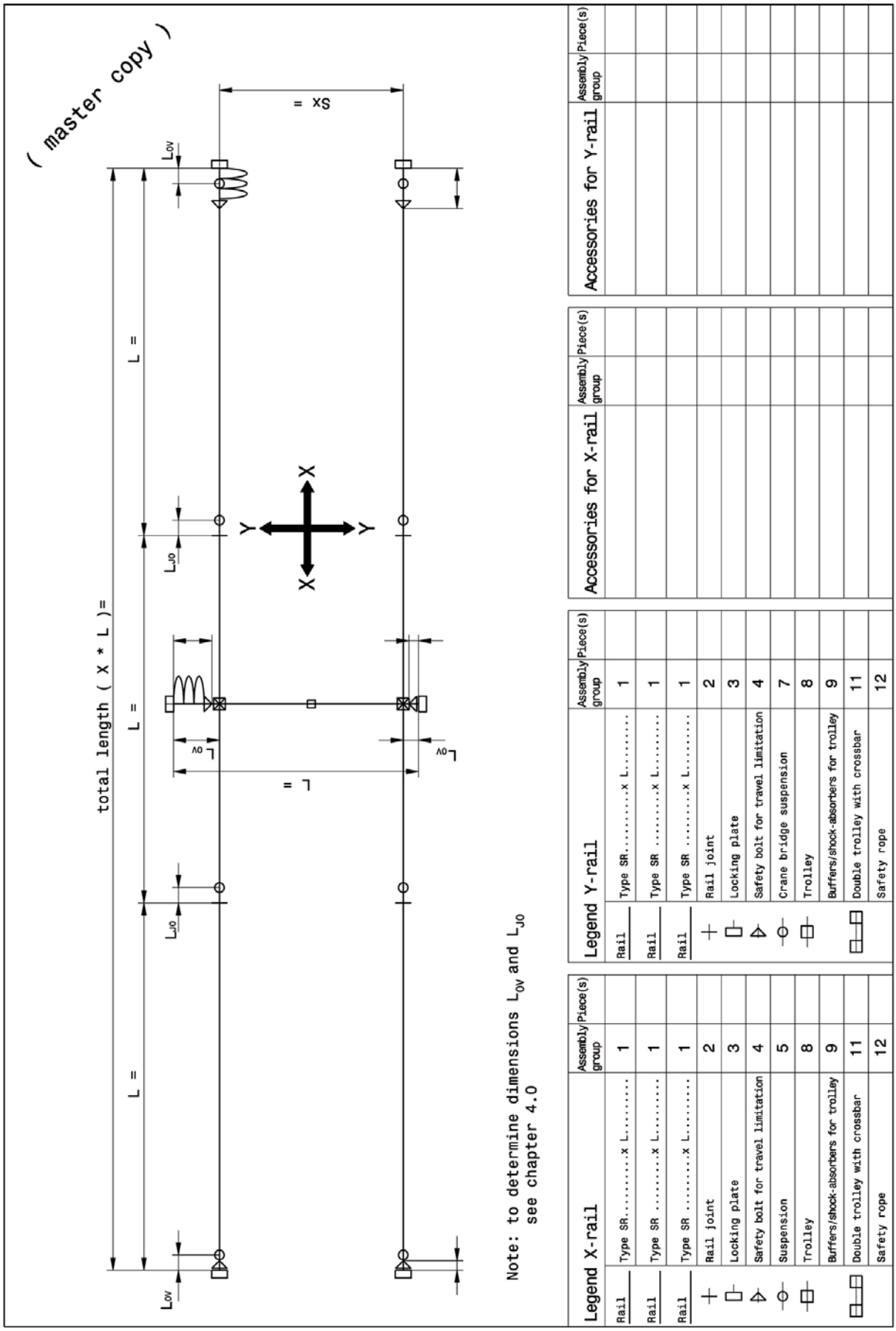
6.0 Project guideline “Double rail runway with trolley frame”



7.0 Project guideline “Double rail runway with single support crane bridge”



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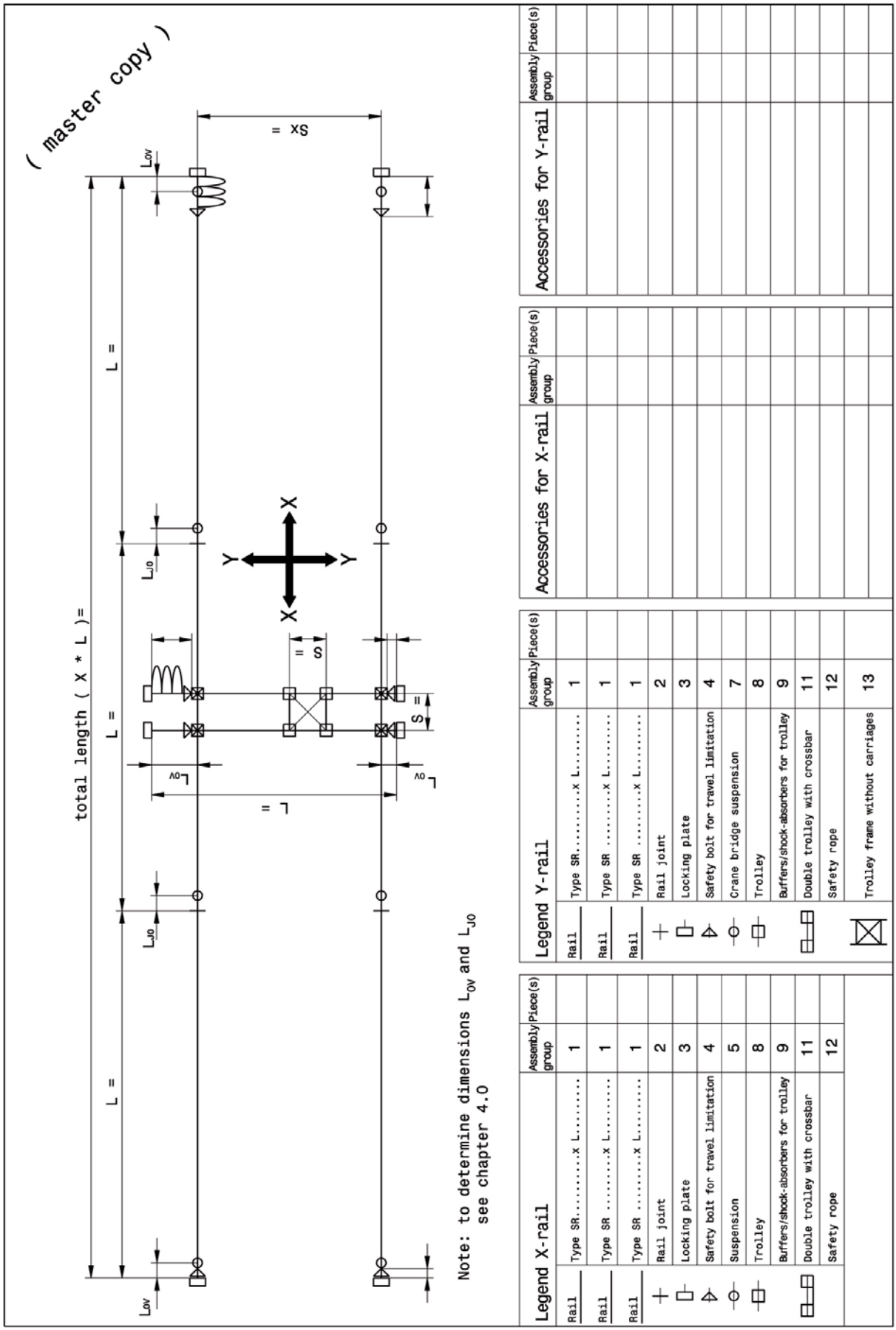
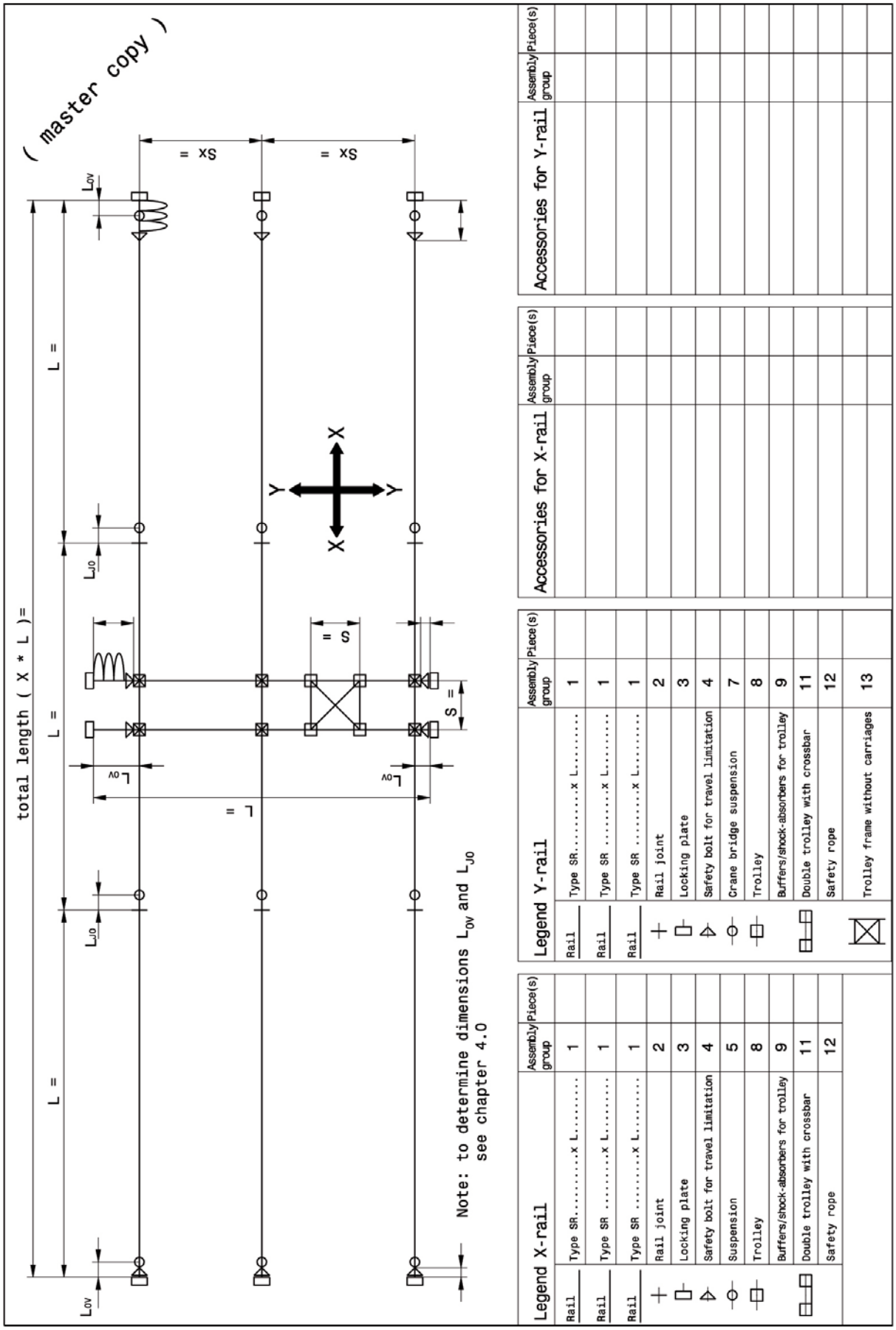
8.0 Project guideline “Double rail runway with double support crane bridge”



9.0 Project guideline “Triple rail runway with double support crane bridge”



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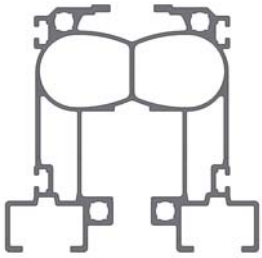
10.0 Rails [assembly group 1]

ROLLYX aluminium rails are extruded multi-chamber precision profiles. As a standard they are of anodised natural-coloured quality. Alternatively colour-coated versions are available on request.

The multi-chamber profile technique allows low-mass employment with highest deflexion and torsion stiffness.

Multifunction rail up to 1000 kg:

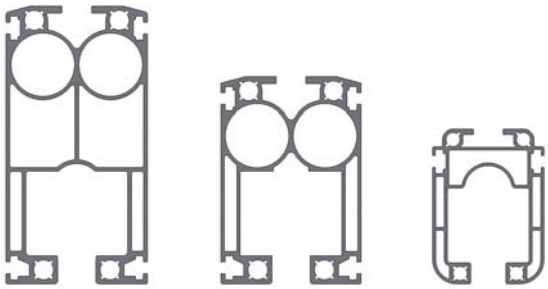
SR 175 M



- main track for trolley(s)
- 2 side tracks for:
  - tool trolley
  - screwdriving technology
- clip-in conductor lines for energy supply

Heavy-duty rail up to 2000 kg:

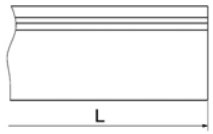
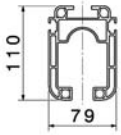
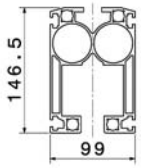
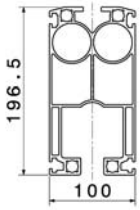
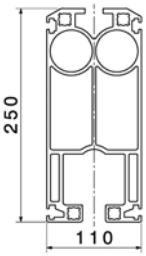
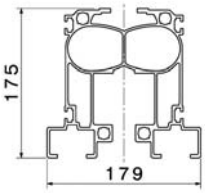
SR 250



Standard rails up to 1000 kg:

SR 100
SR 150
SR 200

Technical data:

	SR 100	SR 150	SR 200	SR 250	SR 175M
	     
Weight:	4,60 kg/m	7,80 kg/m	10,00 kg/m	16,80 kg/m	11,30 kg/m
Colour and surface:	natural-coloured, anodised aluminium (special color on request)				
Moment of inertia of area I_x	208 cm^4	716 cm^4	1616 cm^4	4249 cm^4	1329 cm^4
P/O number L= 1000 mm:	SR100-1000	SR150-1000	SR200-1000	SR250-1000	SR175-1000
P/O number L= 2000 mm:	SR100-2000	SR150-2000	SR200-2000	SR250-2000	SR175-2000
P/O number L= 3000 mm:	SR100-3000	SR150-3000	SR200-3000	SR250-3000	SR175-3000
P/O number L= 4000 mm:	SR100-4000	SR150-4000	SR200-4000	SR250-4000	SR175-4000
P/O number L= 5000 mm:	SR100-5000	SR150-5000	SR200-5000	SR250-5000	SR175-5000
P/O number L= 6000 mm:	SR100-6000	SR150-6000	SR200-6000	SR250-6000	SR175-6000
P/O number L= 8000 mm:	SR100-8000	SR150-8000	SR200-8000	SR250-8000	SR175-8000

Special lengths can be delivered on request.
Values indicated for weight and area moment of inertia are calculated theoretically.

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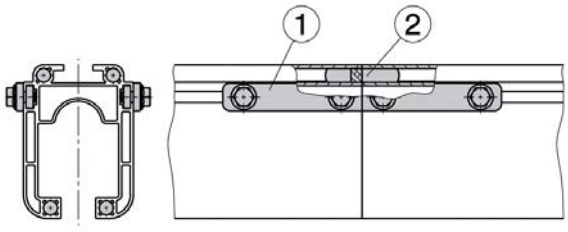
11.0 Rail joints [assembly group 2]

A rail joint is a combined pin-screw connection made of steel and aluminium. The pins care for a precise positioning of the running surfaces of the rails to be connected. Axially, the screw connection fixes the contact surfaces of the rails to each other.

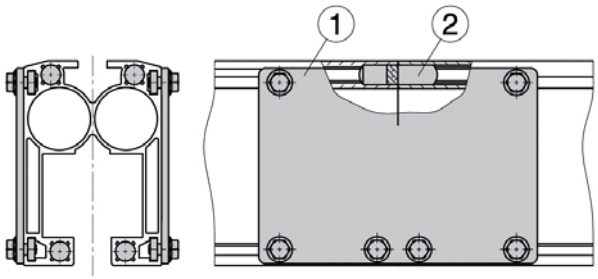
The rail joints may only transfer low deflexion moments, thus the max. permissible distance to the next suspension comes up to 400 mm (see chapter 4.0).

Always position a suspension [assembly group 5] between rail end and last rail joint.



SR 100

P1:	2	x	rail
	2	x	rail provided with threaded holes
	8	x	screw
P2:	4	x	cylindrical pin



SR 150, SR 200, SR 250 and SR 175 M

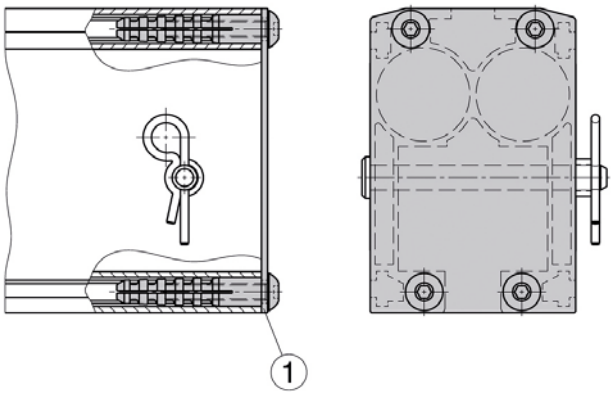
P1:	2	x	plate
	4	x	rail provided with threaded holes
	16	x	screw
P2	4	x	cylindrical pin

	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	0,55 kg	1,66 kg	1,94 kg	2,19 kg	1,58 kg
Material / Colour / Surface:	natural-coloured, anodised aluminium / galvanized steel				
P/O number Rail joint:	SR100-VB01	SR150-VB01	SR200-VB01	SR250-VB01	SR175-VB01
Set consisting of:	P1: rail resp. plate rail provided with threaded holes screws P2: cylindrical pins				

12.0 Locking plates [assembly group 3]

Each end of a rail should be closed with locking plate. With regard to the ROLLYX rail system this plate is made of aluminium and is fixed with four screw-dowel connections.

The locking plate must not be used for travel limitation. A safety bolt [assembly group 4] must always be installed in front of the locking plate.



	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	0,09 kg	0,10 kg	0,10 kg	0,12 kg	0,15 kg
Material / Colour / Surface:	natural-coloured, anodised aluminium / galvanized steel				
P/O number Locking plate:	SR100-VS01	SR150-VS01	SR200-VS01	SR250-VS01	SR175-VS01
Set consisting of:			P1: 1 x locking plate 1 x plastic dowel 1 x screw		

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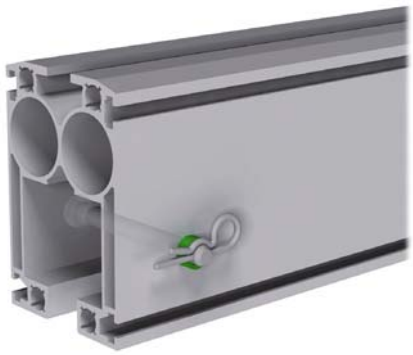
13.0 Safety bolts for travel limitation [assembly group 4]



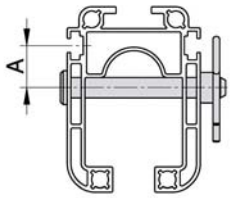
The firmly installed safety bolt for travel limitation for the ROLLYX system is a stop bolt made of steel, which is crosswise put through the rail and locked with a split-pin.

In order to facilitate drilling of holes into the rail, the universal drilling template can be used (p/o number SR000 BS01).

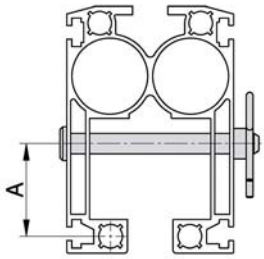
Note: After drilling boreholes must be deburred in- and outside and the running surfaces of the rail must be cleaned residue-free.

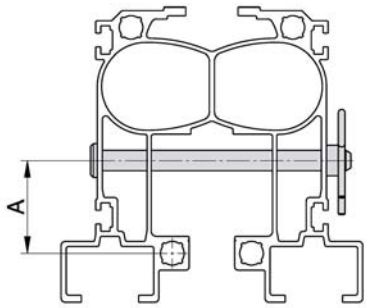
For safety reasons the safety bolts must be mounted to each rail end. They are not intended to be used for positioning.

safety bolt
SR 100



safety bolt
SR 150, SR 200 and SR 250





safety bolt
SR 175 M

	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	0,09 kg	0,10 kg	0,10 kg	0,12 kg	0,15 kg
Material / Colour / Surface:	galvanized steel				
Distance "A":	25 mm	55 mm	55 mm	55 mm	55 mm
P/O number Safety bolt:	SR100-ST01	SR150-ST01	SR200-ST01	SR250-ST01	SR175-ST01
Set consisting of:	P1: 1 x bolt 1 x washer 1 x split-pin				

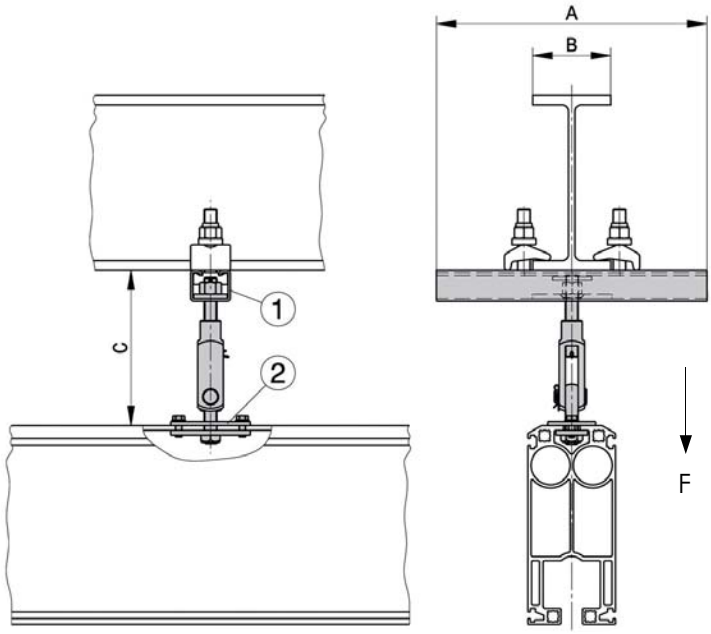
14.0 Suspensions for X-axis [assembly group 5]

There are various variants suspending ROLLYX rails from ceiling constructions. Besides variable rail lengths height setting is selectable as well.

The carrying capacity of the ceiling construction must be checked and proved statically.

Standard - Suspension [pendular]
assembly group 5.1

Short - Suspension [pendular]
assembly group 5.2
(for low-ceiling construction heights)



	no.	Weight in kg	Dimensions in mm A	B	applicable for: I	IPB	IPE
mounting rail for SR 100, SR 150 and SR 200							
mounting rail	**1**	0,78	240	40-140	80-320	100-140	80-270
mounting rail	**2**	1,10	340	40-240	80-380	100-240	80-600
mounting rail for SR 250 and SR 175 M							
mounting rail	**3**	2,40	240	40-140	80-320	100-140	80-270
mounting rail	**4**	2,90	340	40-240	80-380	100-240	80-600

	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,0 kg	1,2 kg	1,2 kg	1,3 kg	1,3 kg
	+ weight of mounting rail				
Material / Colour / Surface:	galvanized resp. nitrided steel				
Distance "C" standard:	197 ± 20 mm	197 ± 20 mm	197 ± 20 mm	197 ± 20 mm	197 ± 20 mm
Distance "C" short:	157 ± 9 mm	157 ± 9 mm	157 ± 9 mm	157 ± 9 mm	157 ± 9 mm
P/O number standard with mounting rail:	SR100-AS0_	SR150-AS0_	SR200-AS0_	SR250-AS0_	SR175-AS0_
	+ no. of mounting rail				
P/O number short with mounting rail:	SR100-AK0_	SR150-AK0_	SR200-AK0_	SR250-AK0_	SR175-AK0_
	+ no. of mounting rail				
Set consisting of:	P1: 1 x mounting rail 1 x fork head with bolt P2: 1 x rail suspension				

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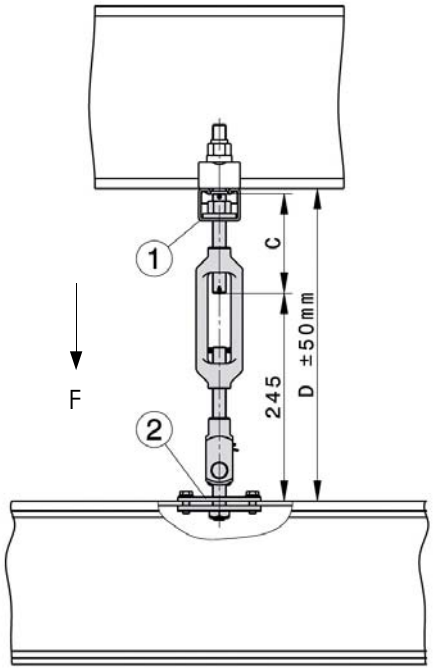
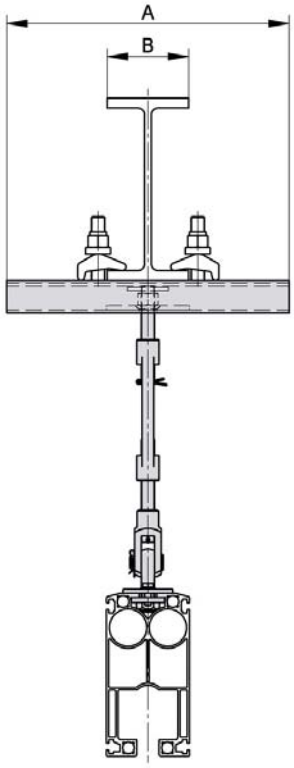
Long suspension [pendular]
assembly group 5.3
(for high construction heights)

	Dimensions of threaded rod M16 left				
Length "C" in mm	120	250	500	1000	2000
Length "D" in mm	375	505	755	1255	2255
Weight in kg	0,16	0,33	0,67	1,33	2,66





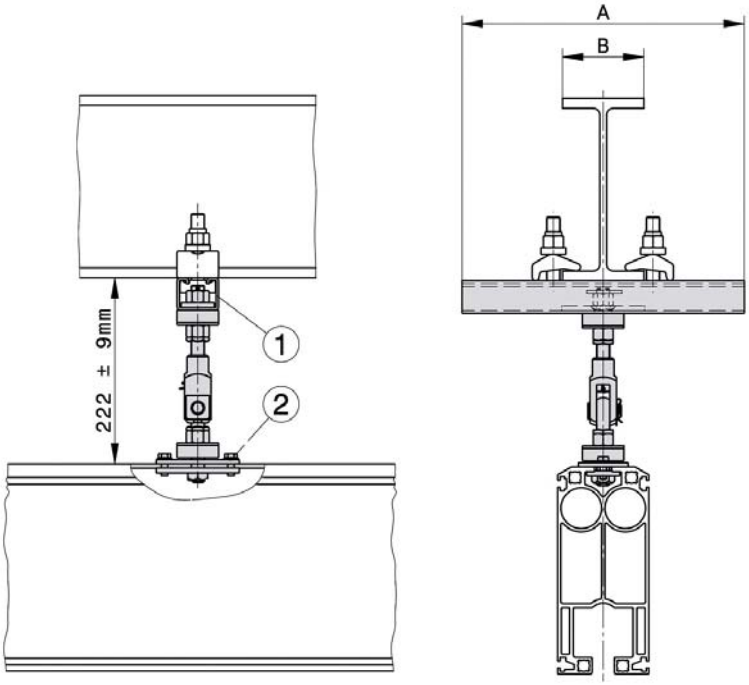
	no.	Weight in kg	Dimensions in mm A	Dimensions in mm B	applicable for: I	applicable for: IPB	applicable for: IPE
mounting rail for SR 100, SR 150 and SR 200							
mounting rail	**1**	0,78	240	40-140	80-320	100-140	80-270
mounting rail	**2**	1,10	340	40-240	80-380	100-240	80-600
mounting rail for SR 250 and SR 175 M							
mounting rail	**3**	2,40	240	40-140	80-320	100-140	80-270
mounting rail	**4**	2,90	340	40-240	80-380	100-240	80-600

	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,5 kg	1,8 kg + weight of mounting rail + weight of threaded rod	1,8 kg	2,1 kg	2,1 kg
Material / Colour / Surface:	galvanized resp. nitrided steel				
P/O number with mounting rail:	SR100-AL0_	SR150- AL0_	SR200-AL0_	SR250-AL0_	SR175M-AL0_
	+ no. of mounting rail + length of threaded rod				
Set consisting of:	P1: 1 x mounting rail 1 x turnbuckle with threaded rod 1 x fork head with bolt P2: 1 x rail suspension				

Height fixed suspension [elastically pendular]
assembly group 5.4
(moment stabilisation)

Technical application must be approved.

	no.	Weight in kg	Dimensions in mm A	B	applicable for: I	IPB	IPE
mounting rail for SR 100, SR 150 and SR 200							
mounting rail	**1**	0,78	240	40-140	80-320	100-140	80-270
mounting rail	**2**	1,10	340	40-240	80-380	100-240	80-600
mounting rail for SR 250 and SR 175 M							
mounting rail	**3**	2,40	240	40-140	80-320	100-140	80-270
mounting rail	**4**	2,90	340	40-240	80-380	100-240	80-600



$M_{max.}$ = 30 Nm

	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,0 kg	1,4 kg	1,4 kg	2,1 kg	2,1 kg
		+ weight of mounting rail			
Material / Colour / Surface:		galvanized resp. nitrided steel			
P/O number with mounting rail:	SR100-AF0_	SR150- AF0_	SR200-AF0_	SR250-AF0_	SR175M-AF0_
		+ no. of mounting rail			
Set consisting of:	P1: 1 x mounting rail P2 1 x fork head with bolt P3 1 x rail suspension				

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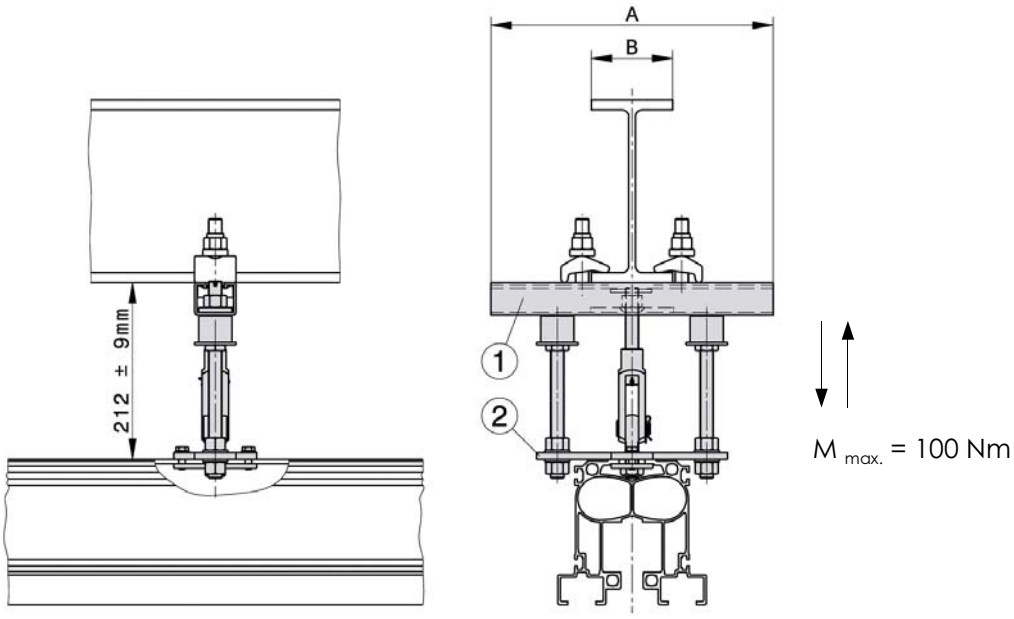
Double height fixed suspension [elastically pendular]
assembly group 5.5
(moment stabilisation)

Technical application must be approved.

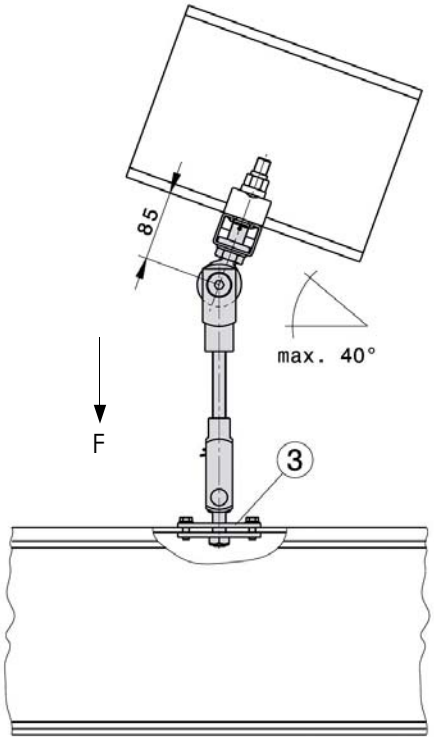
	no.	Weight in kg	Dimensions in mm		applicable for:		
			A	B	I	IPB	IPE
mounting rail for SR 100, SR 150 and SR 200							
mounting rail	**1**	0,78	240	40-140	80-320	100-140	80-270
mounting rail	**2**	1,10	340	40-240	80-380	100-240	80-600
mounting rail for SR 250 and SR 175 M							
mounting rail	**3**	2,40	240	40-140	80-320	100-140	80-270
mounting rail	**4**	2,90	340	40-240	80-380	100-240	80-600

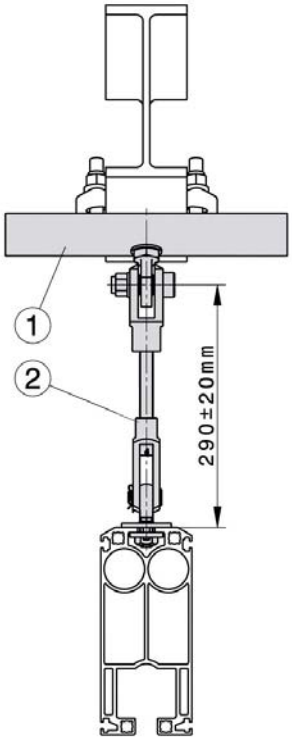


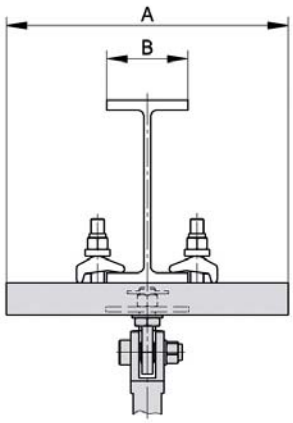
	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,9 kg	2,7 kg	2,7 kg	3,8 kg	3,8 kg
			+ weight of mounting rail		
Material / Colour / Surface:			galvanized resp. nitrided steel		
P/O number with mounting rail:	SR100-AH0_	SR150- AH0_	SR200-AH0_	SR250-AH0_	SR175M-AH0_
			+ no. of mounting rail		
Set consisting of:	P1: 1 x mounting rail P2 1 x fork head with bolt 2 x absorber element P3 1 x rail suspension				

Short suspension for ceiling suspension [pendular]
assembly group 5.6
(for low-ceiling construction heights)

	no.	Weight in kg	Dimensions in mm A	B	applicable for: I	IPB	IPE
mounting rail for SR 100, SR 150 and SR 200							
mounting rail	**1**	0,78	240	40-140	80-320	100-140	80-270
mounting rail	**2**	1,10	340	40-240	80-380	100-240	80-600
mounting rail for SR 250 and SR 175 M							
mounting rail	**3**	2,40	240	40-140	80-320	100-140	80-270
mounting rail	**4**	2,90	340	40-240	80-380	100-240	80-600







	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,5 kg	1,9 kg	1,9 kg + weight of mounting rail	2,6 kg	2,6 kg
Material / Colour / Surface:	galvanized resp. nitrided steel				
P/O number with mounting rail:	SR100-AKD0_	SR150- AKD0_	SR200-AKD0_ + no. of mounting rail	SR250-AKD0_	SR175-AKD0_
Set consisting of:	P1: 1 x mounting rail P2 1 x threaded rod 2 x fork head with bolt P3 1 x rail suspension				

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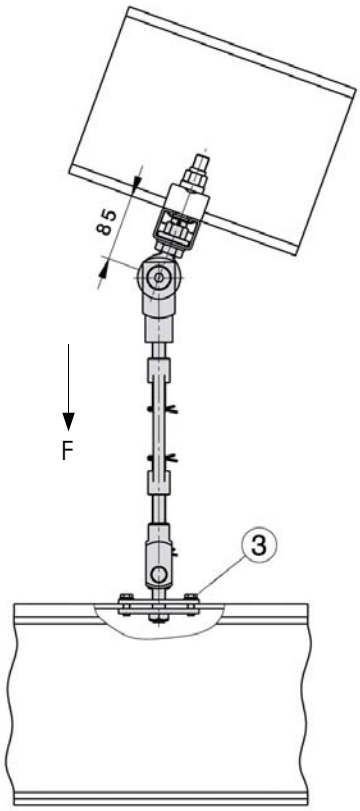
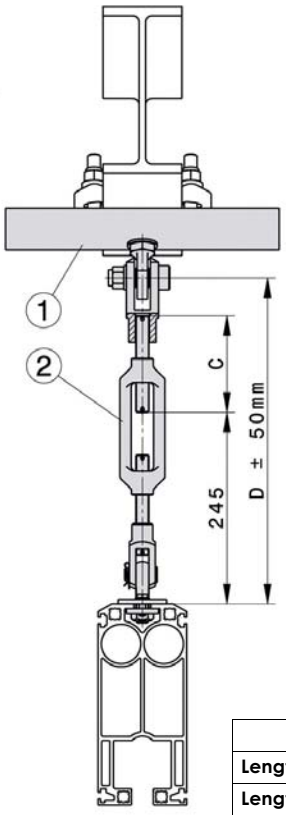
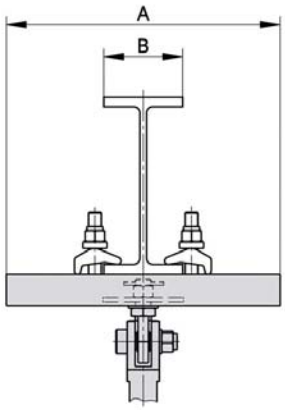
Long suspension for ceiling suspension [pendular]
assembly group 5.7
(for high construction heights)

	no.	Weight in kg	Dimensions in mm A	B	applicable for: I	IPB	IPE
mounting rail for SR 100, SR 150 and SR 200							
mounting rail	**1**	0,78	240	40-140	80-320	100-140	80-270
mounting rail	**2**	1,10	340	40-240	80-380	100-240	80-600
mounting rail for SR 250 and SR 175 M							
mounting rail	**3**	2,40	240	40-140	80-320	100-140	80-270
mounting rail	**4**	2,90	340	40-240	80-380	100-240	80-600







	Dimensions of threaded rod M16 left				
Length "C" in mm	120	250	500	1000	2000
Length "D" in mm	375	505	755	1255	2255
Weight in kg	0,16	0,33	0,67	1,33	2,66

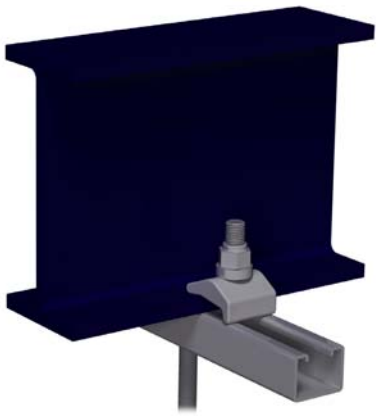
	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,9 kg	2,1 kg + weight of mounting rail + weight of threaded rod	2,1 kg	2,5 kg	2,5 kg
Material / Colour / Surface:	galvanized resp. nitrided steel				
P/O number with mounting rail:	SR100-ALD0_	SR150- ALD0_ + no. of mounting rail + length of threaded rod	SR200-ALD0_	SR250-ALD0_	SR175-ALD0_
Set consisting of:	P1: 1 x mounting rail P2 1 x turnbuckle with 2 threaded rods 2 x fork head with bolt P3 1 x rail suspension				

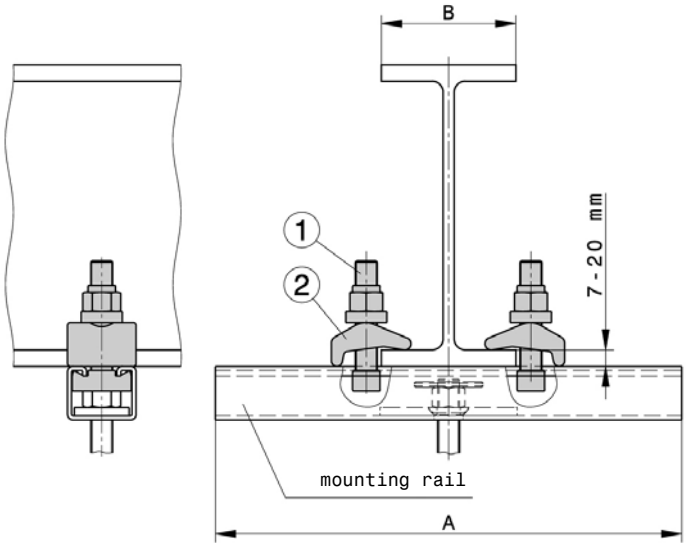
15.0 Fastening sets [assembly group 6]

By means of fastening sets in combination with suspensions [assembly group 5] connection to the carrying construction is rendered possible.

Fastening set for steel profiles - assembly group 6.1

	no.	Dimensions in mm		applicable for:		
		A	B	I	IPB	IPE
mounting rail for SR 100, SR 150 and SR 200						
mounting rail	**1**	240	40-140	80-320	100-140	80-270
mounting rail	**2**	340	40-240	80-380	100-240	80-600
mounting rail for SR 250 and SR 175 M						
mounting rail	**3**	240	40-140	80-320	100-140	80-270
mounting rail	**4**	340	40-240	80-380	100-240	80-600





	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,0 kg	1,0 kg	1,0 kg	1,5 kg	1,5 kg
Material / Colour / Surface:	galvanized resp. nitrided steel				
P/O number for steel profiles:	SR100-BF01	SR150-BF01	SR200-BF01	SR250-BF01	SR175M-BF01
Set consisting of:	P1: 2 x fastening screw 2 x washer 2 x nut P2: 2 x clamping claw				

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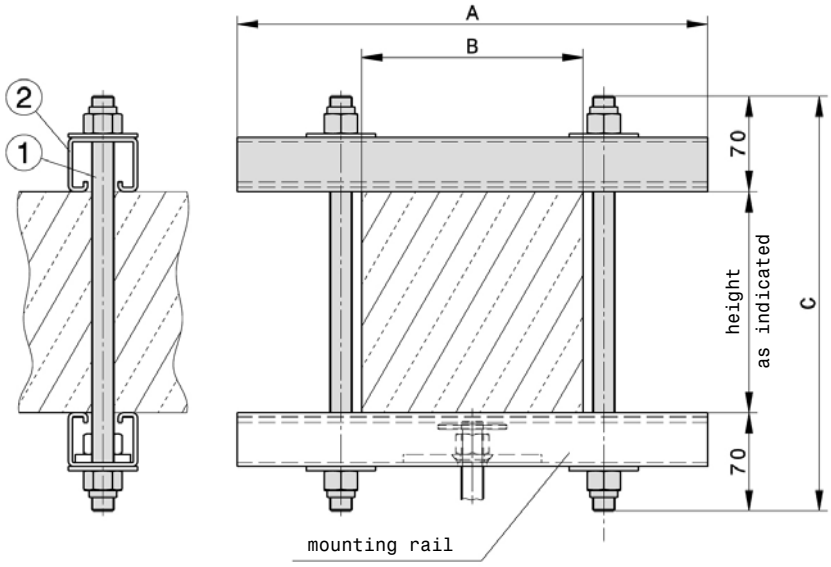
Concrete beam or timber girder - assembly groupe 6.2

	Dimensions of threaded rod M16			
Length "C" in mm	250	500	1000	2000
Weight in kg	0,33	0,67	1,33	2,66



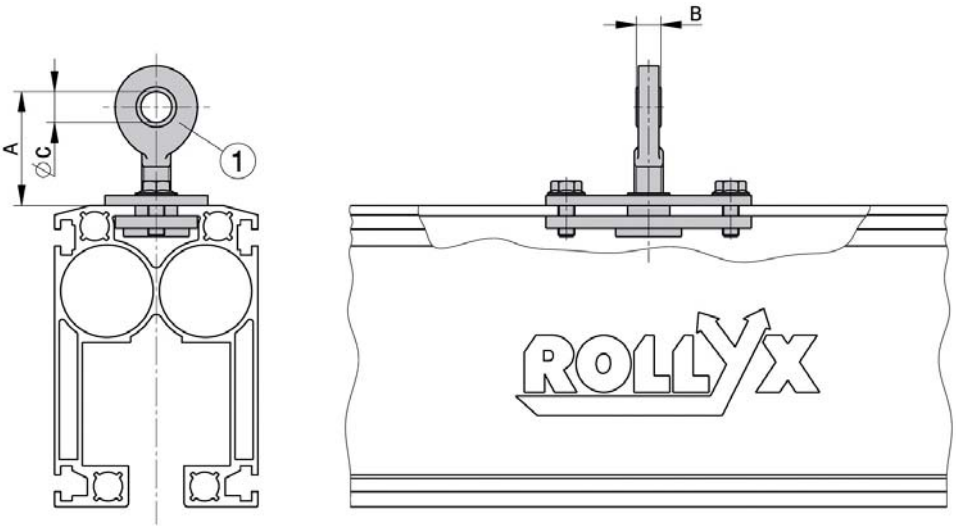
clamping rail corresponding to:	no.	Weight in kg	Dimensions in mm A	B
mounting rail for SR 100, SR 150 and SR 200				
mounting rail	**1**	0,78	240	40-140
mounting rail	**2**	1,10	340	40-240
mounting rail for SR 250 and SR 175 M				
mounting rail	**3**	2,40	240	40-140
mounting rail	**4**	2,90	340	40-240

	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	0,2 kg	0,2 kg + weight of mounting rail + weight of threaded rod	0,2 kg	0,2 kg	0,2 kg
Material / Colour / Surface:	galvanized resp. nitrided steel				
P/O number for concrete beam or timber girder:	SR100-BK0_	SR150-BK0_ + no. of mounting rail + length of threaded rod	SR200-BK0_	SR250-BK0_	SR175M-BK0_
Set consisting of:	P1: 2 x threaded rod 4 x washer 2 x nut P2: 1 x clamping rail				

16.0 Crane bridge suspensions for Y-axis [assembly group 7]

Crane bridge suspensions are designed for construction of single or double support crane bridges.

They are screwed into the carrier groove of the crane bridge and then hooked into the trolleys of the ROLLYX runway



	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	0,46 kg	0,55 kg	0,55 kg	1,15 kg	1,23 kg
Material / Colour / Surface:	galvanized resp. nitrided steel				
Distance "A":	56 mm	56 mm	56 mm	59 mm	59 mm
Width "B":	12 mm	12 mm	12 mm	14 mm	14 mm
Diameter "C":	15 mm	15 mm	15 mm	16 mm	16 mm
P/O number Crane bridge suspensions:	SR100-KA01	SR150-KA01	SR200-KA01	SR250-KA01	SR175M-KA01
Set consisting of:	P1: 1 x articulated suspension 2 x screw				

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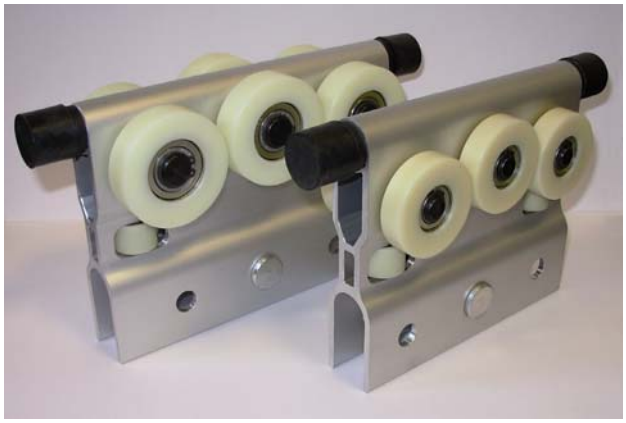
17.0 Trolleys [assembly group 8]

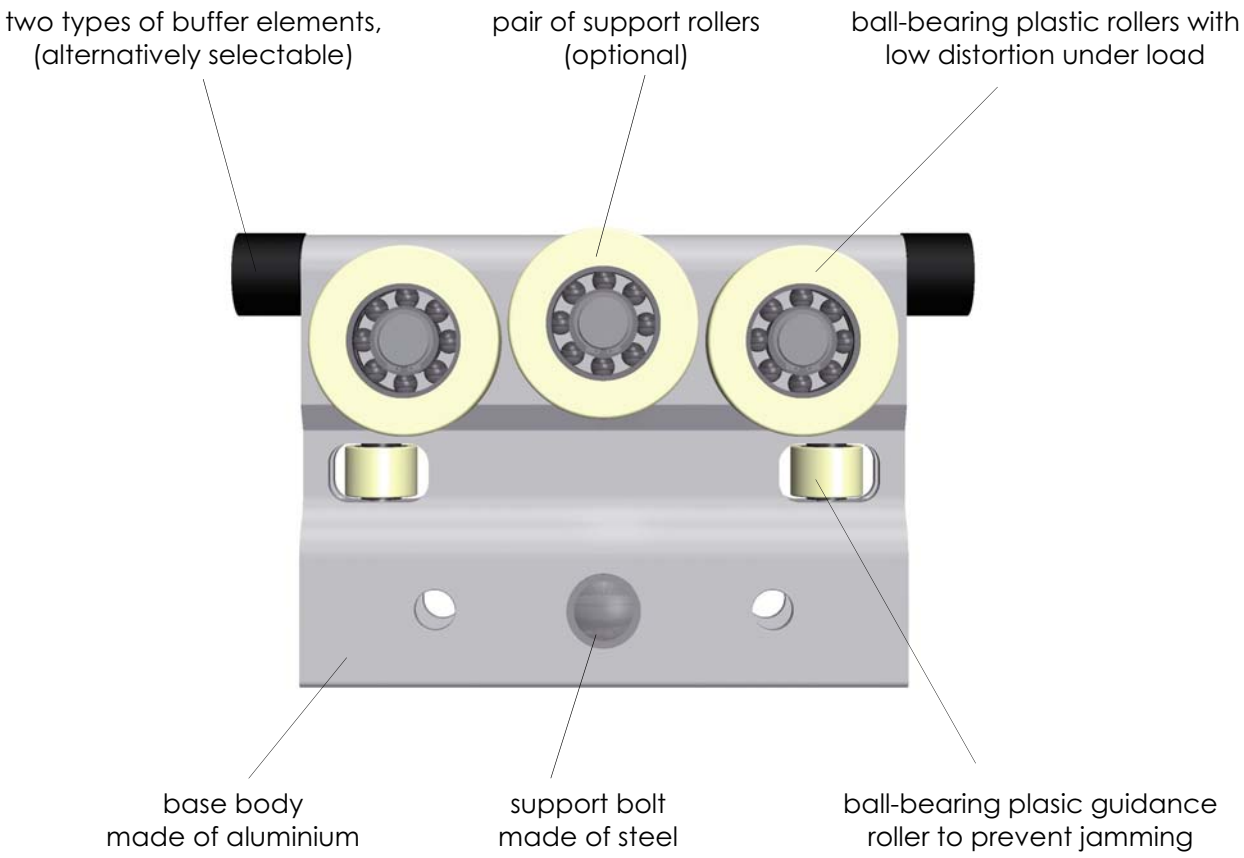


Die ROLLYX trolleys are equipped with ball-bearing plastic rollers. Side guidance rollers prevent the trolleys from jamming inside the rail.

A support roller version can be selected for applications which require a support against raising of rollers from the contact surface.

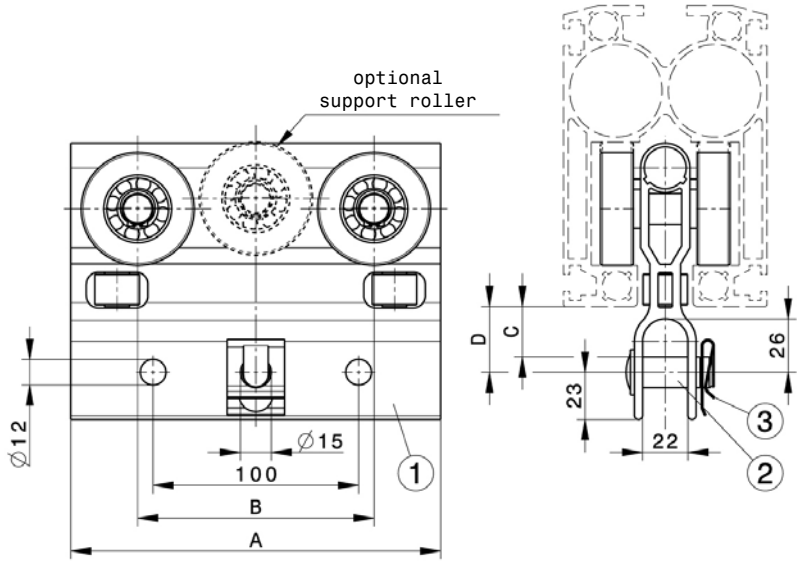
In general trolleys are delivered without shock absorbing elements.

Please choose elastomer buffer elements or hydraulic shock absorbers from chapter 18.0 (page 32).



Trolleys without pair of support rollers - assembly group 8.1

Trolleys with pair of support rollers - assembly group 8.2



	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight without support rollers:	0,72 kg	1,05 kg	1,05 kg	1,05 kg	1,05 kg
Weight with support rollers:	0,82 kg	1,32 kg	1,32 kg	1,32 kg	1,32 kg
Material / Colour / Surface:	natural-coloured, hard anodised aluminium				
Distance "A":	150 mm	180 mm	180 mm	180 mm	180 mm
Distance "B":	95 mm	115 mm	115 mm	115 mm	115 mm
Distance "C":	25 mm	24,5 mm	24,5 mm	24,5 mm	24,5 mm
Distance "D":	32,5 mm	32 mm	32 mm	32 mm	32 mm
Max. safe working load per trolley:	350 kg	500 kg * higher loading see chapter 20.0	500 kg	500 kg	500 kg
P/O number trolley without support rollers:	SR100-LW01	SR150-LW01	SR200-LW01	SR250-LW01	SR175M-LW01
P/O number trolley with support rollers:	SR100-LW02	SR150-LW02	SR200-LW02	SR250-LW02	SR175M-LW02
Set consisting of:	P1: 1 x trolley with 2 pairs of rollers resp. 3 pairs of rollers P2: 1 x bolt P3: 1 x securing clip				

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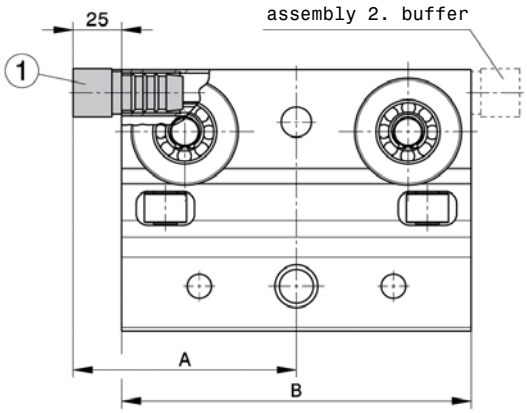
18.0 Buffers and shock-absorbers for trolleys [assembly group 9]

In the process of standard application rubber buffers [assembly group 9.1] absorb the occasional bumping between trolley and stoppers for travel limitation.

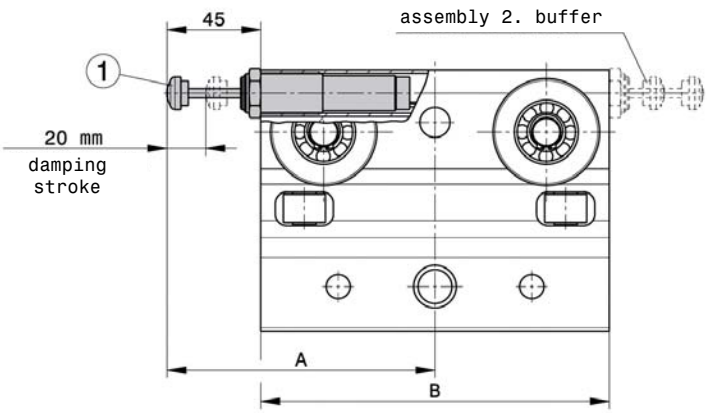
For applications involving a more frequent bumping against the stoppers the use of hydraulic shockabsorbers is recommended. Both kinds of absorbers are screwed into the threaded holes of the trolleys.

Remarks: For runway positioning the positioning stopper [assembly group 10] should be used.

Buffer element out of rubber
assembly group 9.1



Hydraulic shock-absorber
assembly group 9.2



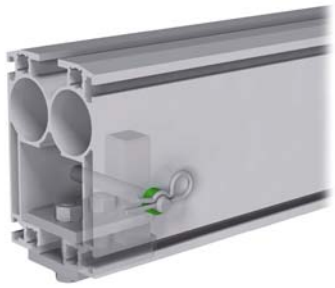
	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per buffer:	0,03 kg	0,03 kg	0,03 kg	0,03 kg	0,03 kg
Material buffer:	plastic / rubber				
Weight per shock-absorber:	0,15 kg	0,15 kg	0,15 kg	0,15 kg	0,15 kg
Material shock-absorber:	steel / plastic				
Distance "A":	100 mm	115 mm	115 mm	115 mm	115 mm
Distance "B":	150 mm	180 mm	180 mm	180 mm	180 mm
Distance "C":	120 mm	135 mm	135 mm	135 mm	135 mm
P/O number buffer:	SR100-PF01	SR150-PF01	SR200-PF01	SR250-PF01	SR175M-PF01
P/O number shock-absorber:	SR100-SD01	SR150-SD01	SR200-SD01	SR250-SD01	SR175M-SD01
Set consisting of:	P1: 1 x buffer resp. shock-absorber				

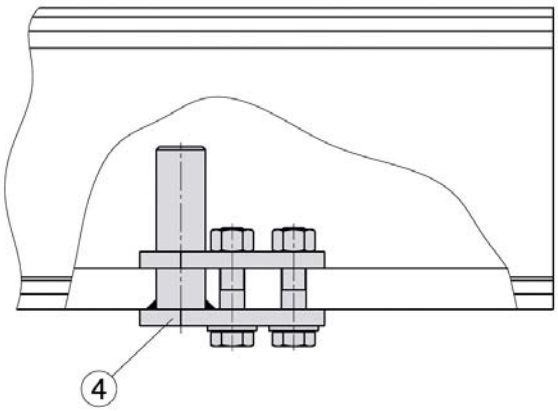
19.0 Positioning stoppers [assembly group 10]

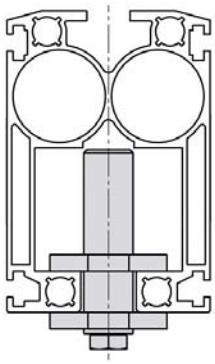
Two basic types of positioning stoppers provide an adaptation facility to special requirements. Both can be positioned along the entire rail length which makes a prepositioning of a load possible.

Positioning stoppers, internal - assembly group 10.1

This version is mounted in the rail from the bottom and then clamped at desired stop position. The stopper works together with the buffer resp. shockabsorber for the trolley [assembly group 8]. Underriding is not possible.







	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,0 kg	1,0 kg	1,0 kg	1,0 kg	1,0 kg
Material / Colour / Surface:	galvanized steel				
P/O number positioning stopper:	SR100-PS05	SR150-PS05	SR200-PS05	SR250-PS05	SR175M-PS05
Set consisting of:	P4: 1 x positioning stopper				

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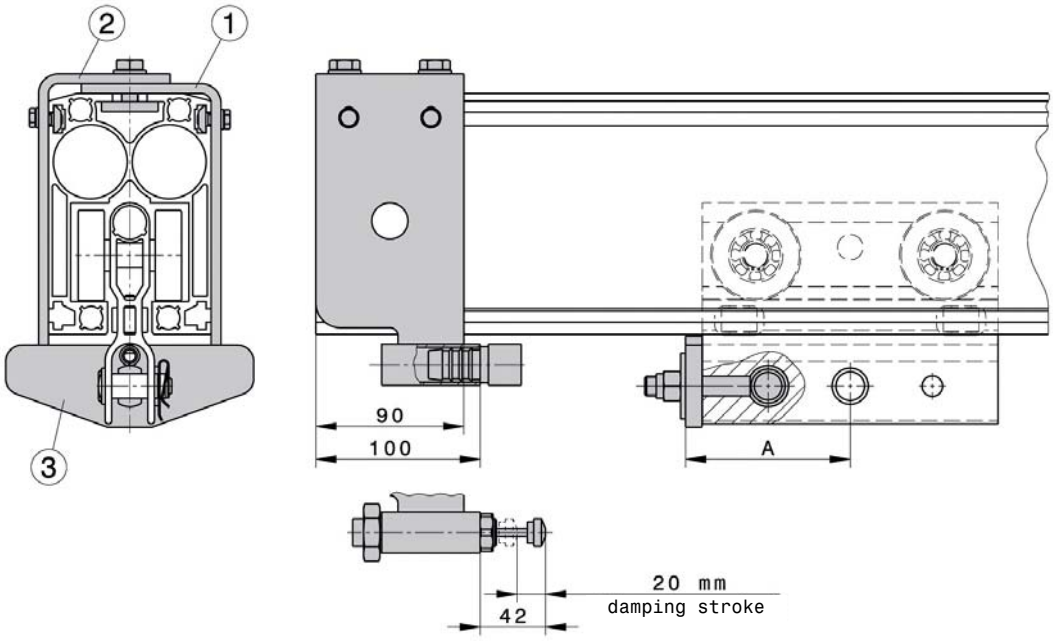
Positioning stoppers, external, with buffer resp. shock-absorber - assembly group 10.2 / 10.3

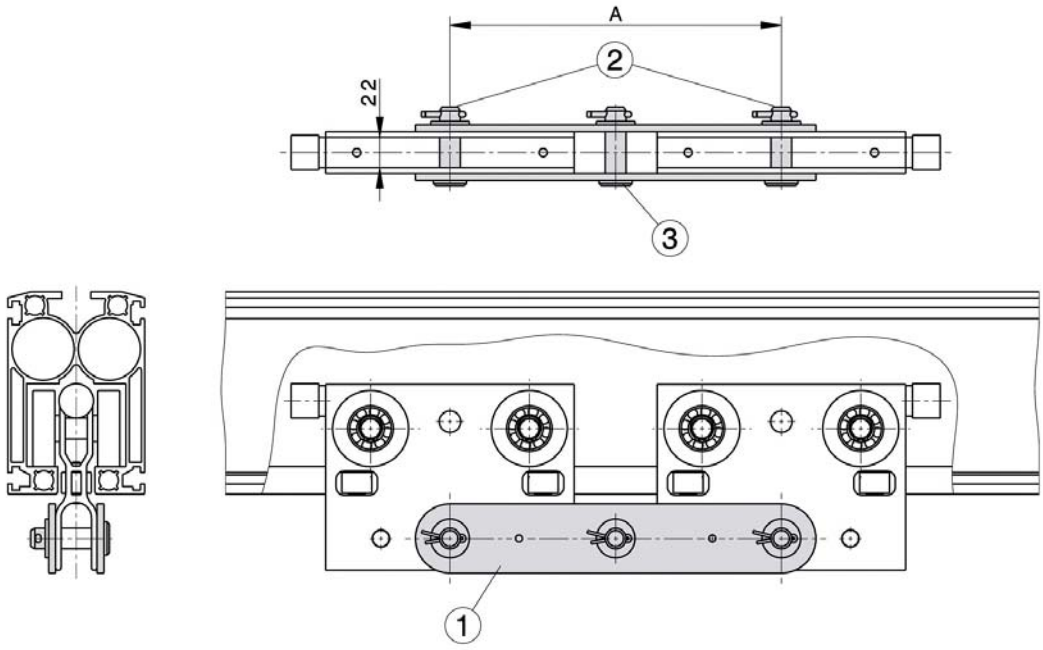
The (external) positioning stopper can be underrode with energy supply trolleys and is therefore suitable for power feeding laid inside the rail. Using the variants left / right or buffer / shock-absorber, you can build up e.g. twin stops or strong damping stops.



	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	1,3 kg	1,5 kg	1,7 kg	2,5 kg	-
Material / Colour / Surface:	natural-coloured, anodised aluminium / galvanized steel				
Distance "A":	85 mm	100 mm	100 mm	100 mm	100 mm
P/O number external buffer right:	SR100-PS01	SR150- PS01	SR200-PS01	SR250-PS01	-
P/O number external buffer left:	SR100-PS02	SR150- PS02	SR200-PS02	SR250-PS02	-
P/O number external shock-absorber right:	SR100-PS03	SR150- PS03	SR200-PS03	SR250-PS03	-
P/O number external shock-absorber left:	SR100-PS04	SR150- PS04	SR200-PS04	SR250-PS04	-
Set consisting of:	P1: 1 x base support incl. buffer resp. shock-absorber P2: 1 x additional support incl. buffer resp. shock-absorber P3: 1 x stop set				

20.0 Connecting links for double trolleys [assembly group 11]

In order to profit from the full carrying capacity of ROLLYX runways a pairwise use of trolleys is possible. The connecting link for twin trolleys connects both trolleys with each other and provides an evenly distributed load, due to the centred fastening bolt.

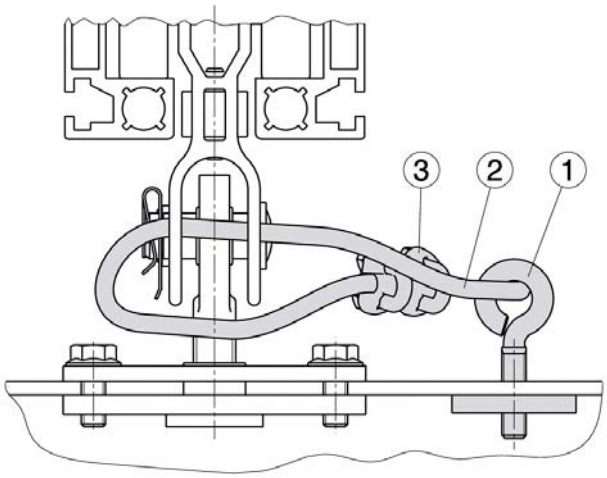


	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set:	2,0 kg	2,0 kg	2,0 kg	2,6 kg	2,6 kg
Material / Colour / Surface:	galvanized steel				
Distance "A":	240 mm	240 mm	240 mm	310 mm	310 mm
Safe working load per double trolley:	500 kg	750 kg	750 kg	750 kg	750 kg
	* higher loads up to 2000 kg with double rail and trolley frame				
P/O number connecting link:	SR100-TV01	SR150-TV01	SR200-TV01	SR250-TV01	SR175M-TV01
Set consisting of:	P1: 1 x connecting link P2: 2 x bolt, washer, split-pin P3: 1 x bolt, washer, split-pin resp. hardened screw, washer, stop nut				

21.0 Safety ropes [assembly group 12]

All suspensions and crane bridge suspensions must be secured against falling down by means of safety ropes.

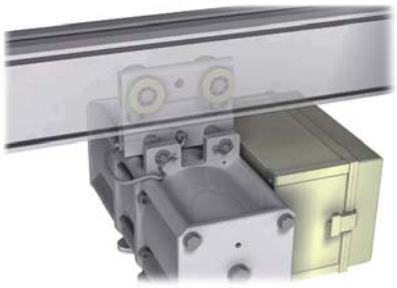
Safety rope, short
assembly group 12.1



Safety rope, long
assembly group 12.2

Safety rope
X/Y-application

Safety rope
trolley frame



Safety rope
device protection

	SR 100	SR 150	SR 200	SR 250	SR 175 M
Weight per set, short: 700 mm rope	0,12 kg	0,12 kg	0,12 kg	-	-
Weight per set, long: 1500 mm rope	0,17 kg	0,17 kg	0,17 kg	0,78 kg	0,82 kg
Material / Colour / Surface:	galvanized steel				
P/O number Safety rope, short:	SR100-FS01	SR150-FS01	SR200-FS01	-	-
P/O number Safety rope, long:	SR100-FS02	SR150-FS02	SR200-FS02	SR250-FS02	SR175M-FS02
Set consisting of:	P1: 1 x fastening element P2: 1 x rope P3: 2 x rope clamp				

22.0 Instructions

The ROLLYX-aluminium rail system is dimensioned in accordance with the German standards DIN15018 (cranes), DIN4132 (crane ways), and DIN18800 part 1 (steel constructions).

The German accident prevention regulation of cranes (BGV D6) must be considered for planning, projecting and operating of ROLLYX aluminium rail systems. ROLLYX cranes and single rail runways construed on basis of afore-mentioned engineering instructions are built according to the rules of technology and correspond to the Equipment and Product Safety Act (GPSG - law for technical means of production and consumer products), to German accident prevention regulations, DIN and VDE regulations and to the EC Machinery Directive 2006/42/EC of the European Parliament. The EC Declaration of conformity resp. EC Declarations of incorporation and inspection booklet "ROLLYX aluminium rail systems" are part of delivery. Instructions given in operating and installation manuals must be complied with.

Only ROLLYX original parts must be used for ROLLYX aluminium railways. These genuine parts grant safety of your crane installations. Unauthorized modifications, use and non-expert installation lead to an exclusion of liability of the manufacturer for any damages.

The intended use of ROLLYX aluminium rail systems means connection with lifting devices for lifting, lowering and moving of loads. Inclined hoisting, dragging or hurling of loads, transport of persons via equipment not intended for, as well as tearing off of loads, moving and towing off of vehicles with load or via load handling device is prohibited. The indicated safe working load consists of load plus self-weight of the lifting device and load handling device.

Application example
ROLLYX X/Y-System

23.0 Standard accessories

Due to the variety of application possibilities of the ROLLYX aluminium rail system and continuous invention this projecting catalogue cannot offer a full survey of all component parts.

Technical data sheets and printed publications are available for following listed ROLLYX standard accessories:

23. 1 Brakes
23. 2 Friction drives
23. 3 Crossbars for double support bridge
23. 4 Crane way switch (cross reversing switch)
23. 5 Trolley frames
23. 6 Snap-ins
23. 7 Pneumatic and electrical energy supply
23. 8 Electro-chain hoists
23. 9 Complete systems (rail system + portal steel construction)

23.1 Pneumatic brake for rail system

Further accessories:

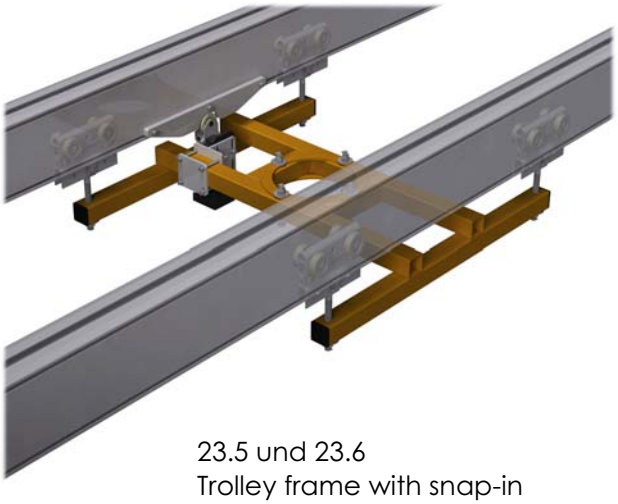
- **Buckling arm manipulators**
- **Hoist axis manipulators**
- **Rope manipulators**
- **Storage and retrieval manipulators**
- **Assembly devices with operator's seat**
- **Portal steel construction**

23.2 Pneumatic friction drives

Contact your responsible representative for further application possibilities.

23.4 Crane way switch (cross-reversing switch)

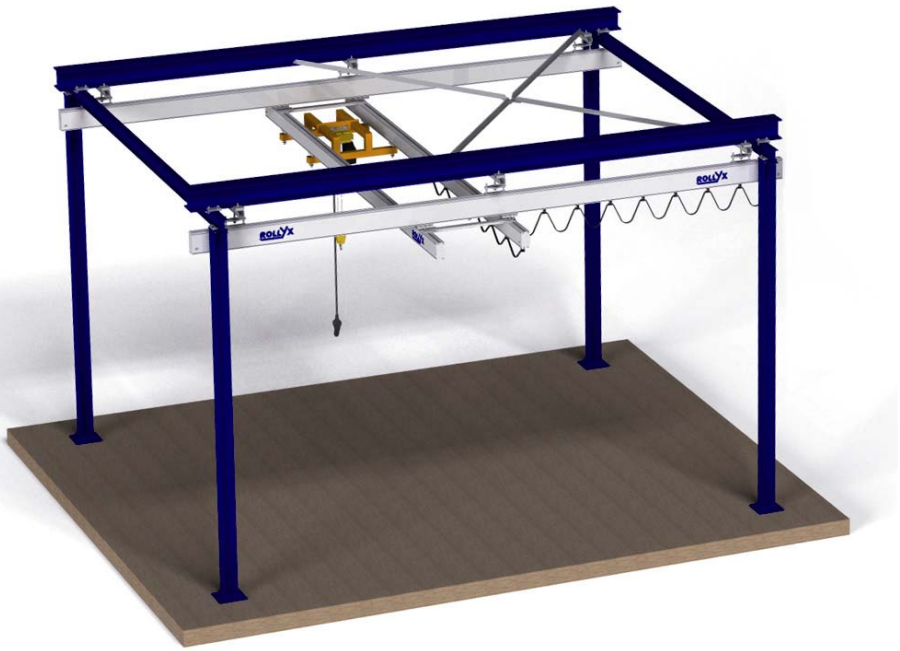
23.3 Crossbars for double support bridge



23.5 und 23.6
Trolley frame with snap-in

23.7 Pneumatic and electrical energy supply

23.8 Electro-chain hoists



23.9 Complete system
(rail system + portal steel construction)

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