

MONORAIL SYSTEMS



RAILTECHNIEK VAN HERWIJNEN BV

SPECIALISTS IN OVERHEAD CONVEYORS

Flowcoat



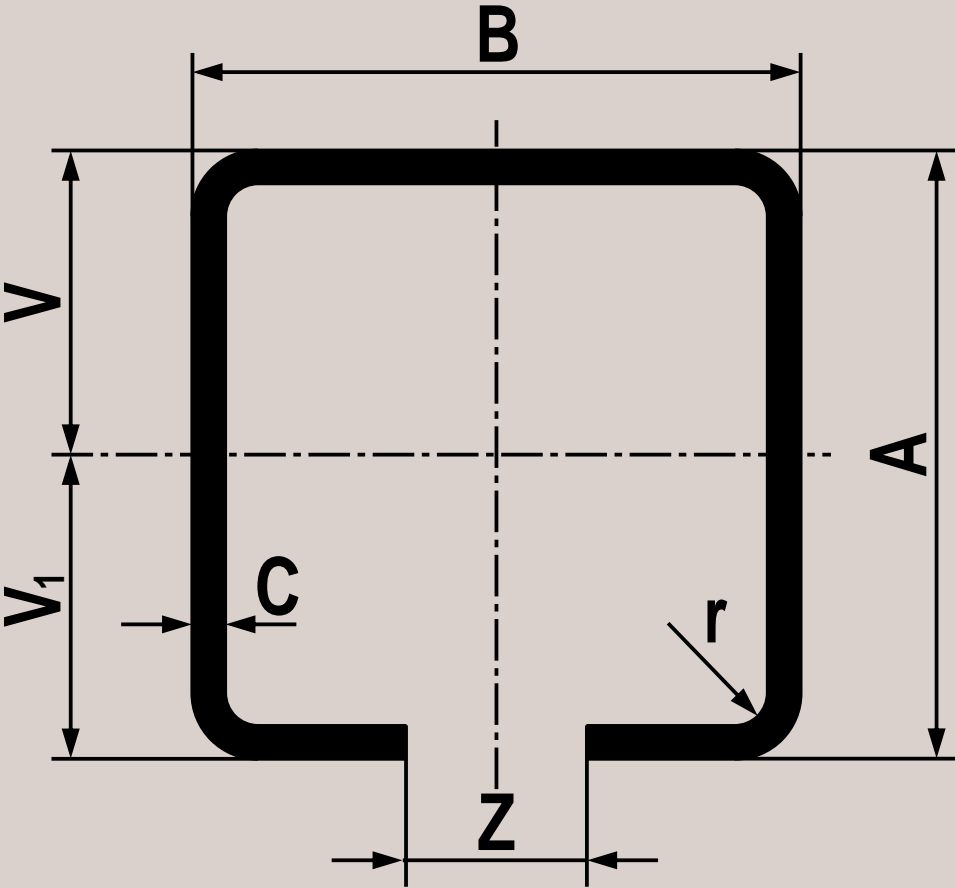
Bridge Crane

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Monorail





Type of tracks

| sizes A x B x C mm | weight kg/m | S cm ² | I _x cm ⁴ | V ₁ cm | V cm | $\frac{I_x}{V}$ cm ³ | Z mm | r mm |
|-----------------------|----------------|----------------------|-----------------------------------|----------------------|---------|------------------------------------|---------|---------|
| 66 x 62 x 3 | 4.98 | 6.38 | 36 | 3.60 | 3.00 | 10.0 | 20 | 4 |
| 74 x 74 x 4 | 7.67 | 9.84 | 72.5 | 4.01 | 3.40 | 18.0 | 22 | 4 |
| 100 x 80 x 5 | 11.55 | 14.80 | 186 | 5.39 | 4.61 | 34.5 | 26 | 6 |
| 120 x 110 x 7 | 26.78 | 20.89 | 501 | 5.6 | 6.4 | 78 | 28 | 9 |

Type of
tracks

260.000

250.000

240.000

230.000

Type

The special cold rolled monorail tracks are available in 4 sizes, each is indicated by 6 figures:

230.000, 240.000, 250.000 and 260.000 .

The standard lengths are 6 m. Intermediate lengths are also available. In a monorail project all tracks are cut to the exact dimensions.

Execution

The tracks can be supplied in three different finishes:

1. The track is painted and not drilled.

In this case the second series of 3 figures is indicated by: ...000...

2. The track is painted, drilled and tapped (at both sides) for a jointing bracket. In this case the second series of 3 figures is indicated by: ...100...

3. The track is painted, drilled and tapped (at both sides) for a connecting piece. In this case the second series of 3 figures is indicated by: ...300...

Identification

The tracks are indicated by a number of 9 figures.

The first series of 3 figures indicates the track type: 250... ..

The second series of 3 figures indicates the finishing:... 100 ...

The third series of 3 figures indicates the length: 300

Example of order

The type of track is 250.000_____250_____100_____300

The track is painted, drilled and tapped for a connection_____

The length of the track is 3 m_____

Finish

In the standard execution the tracks are supplied with an orange premium finish coating RAL 9006. The tracks can be supplied in other colours.

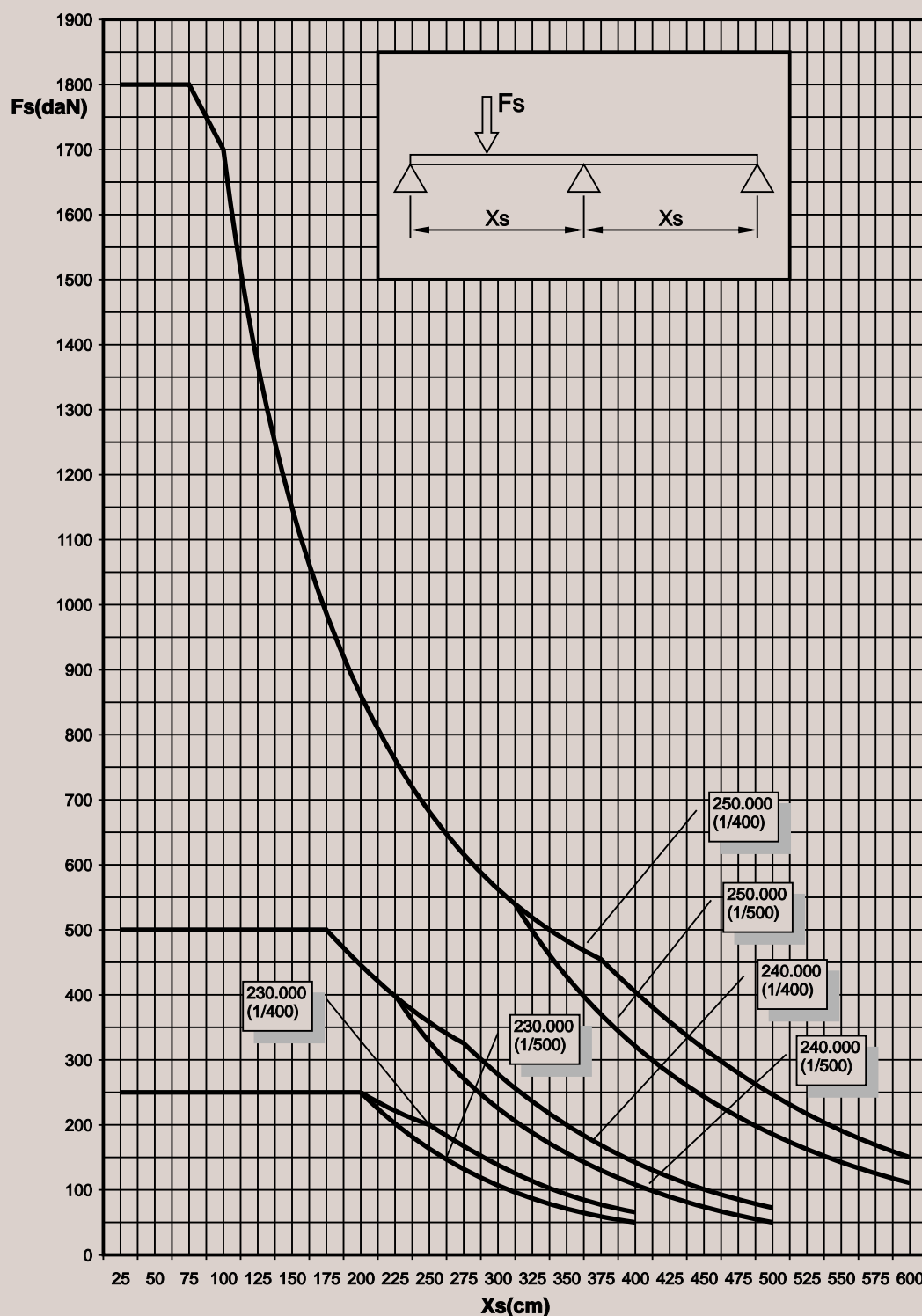
By request the tracks can be supplied galvanized (hot dipped), metallized or with an epoxy coating.

In Addition

The tracks type 230.000 and 240.000 are also available sendzimir galvanized. In this case the second array of three numbers is indicated by: ...001... .

Static Loading

Static load F_s with deflection $f = 1/400 \times X_s$ or $f = 1/500 \times X_s$ and a max. deflection stress of 1000 kg/cm^2 , taking into account the deflection due to the track's own weight.



In the table are some practical values of the maximum carrying capacity F in kg and for the equally divided load Q in kg/m as a function of the distance between brackets Xs in mm.

These values apply for monorail applications.

| Distance between brackets = Xs | 230.000 | | 240.000 | | 250.000 | |
|-----------------------------------|---------|-----|---------|-----|---------|------|
| | F | Q | F | Q | F | Q |
| 500 | — | — | — | — | 1800 | 1800 |
| 660 | — | — | — | — | 1400 | 1400 |
| 750 | — | — | — | — | 1200 | 1200 |
| 1000 | 250 | 250 | 500 | 500 | 1000 | 1000 |
| 1200 | 210 | 220 | 420 | 440 | 850 | 900 |
| 1500 | 160 | 150 | 320 | 300 | 700 | 625 |
| 2000 | 100 | 75 | 200 | 150 | 500 | 340 |
| 2500 | 65 | 40 | 130 | 80 | 300 | 200 |
| 3000 | 40 | 20 | 90 | 40 | 200 | 110 |
| 3500 | 25 | 12 | 60 | 25 | 140 | 60 |
| 4000 | 15 | 7 | 40 | 15 | 100 | 40 |
| 4500 | — | — | 25 | 8 | 70 | 25 |

Remark

In general a monorail system is fixed with the brackets to a steelwork consisting of IPE-girders.

While calculating the steelwork, it is very important to respect an f max according to the application:

f max < 1/400 for monorails in single straight tracks

f max < 1/500 for monorails in the stock areas of the circuit

Please contact our engineering department for applications with heavy impact loads, or in the case of F or Q > 1000 kg (/m).

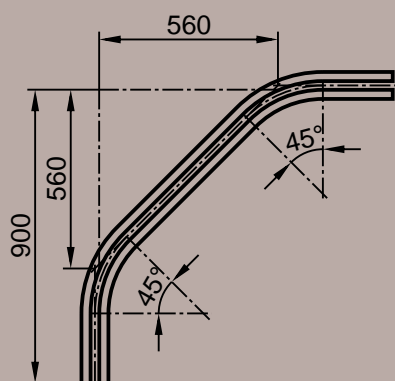
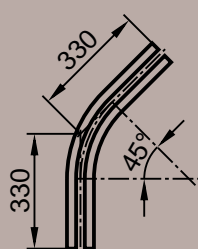
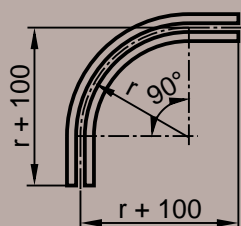
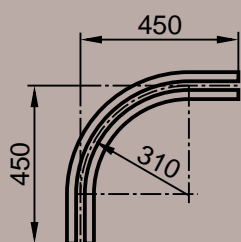


The standard track bends in a monorail system are supplied with a radius from 310 mm up to 1200 mm.

On request the track bends can be manufactured with an other radius.

The standard track bends are provided at both ends with a straight piece of track in order to ensure a perfect joining to the following straight track.

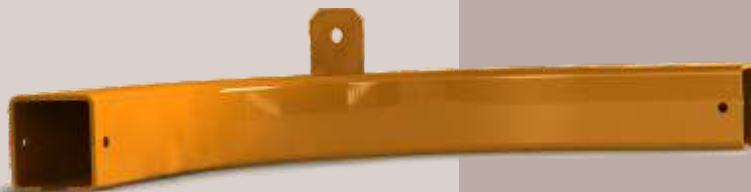
We have various vertical bends available in our program as well.



| Angle | Radius in mm | Series 230.000 | Series 240.000 | Series 250.000 | Series 260.000 |
|-------------------|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 90° | 310 | 230.010 | 240.010 | 250.010 | 260.010 |
| 90° | 400 | 230.020 | 240.020 | 250.020 | 260.020 |
| | 500 | 230.030 | 240.030 | 250.030 | 260.030 |
| | 600 | 230.040 | 240.040 | 250.040 | 260.040 |
| | 700 | 230.050 | 240.050 | 250.050 | 260.050 |
| | 800 | 230.060 | 240.060 | 250.060 | 260.060 |
| | 900 | 230.070 | 240.070 | 250.070 | 260.070 |
| | 1000 | 230.080 | 240.080 | 250.080 | 260.080 |
| | 1200 | 230.090 | 240.090 | 250.090 | 260.090 |
| 45° | 310 | 230.110 | 240.110 | 250.110 | 260.110 |
| 90° lengthened | 310 | 230.150.903.1 | 240.150.903.1 | 250.150.903.1 | 260.150.903.1 |

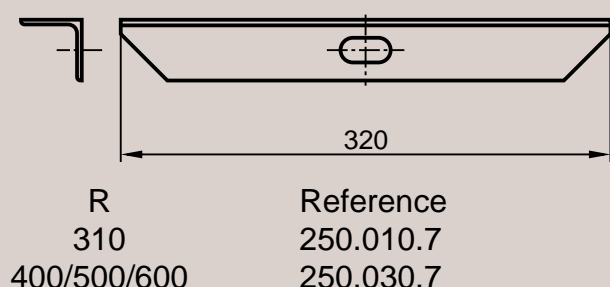
General

The track bends with a radius up to and including 600 mm are provided with a vertical and drilled suspension plate. The track curves with a radius larger than 600 mm are fastened with clamps and standard brackets to an I-girder of the support steelwork.



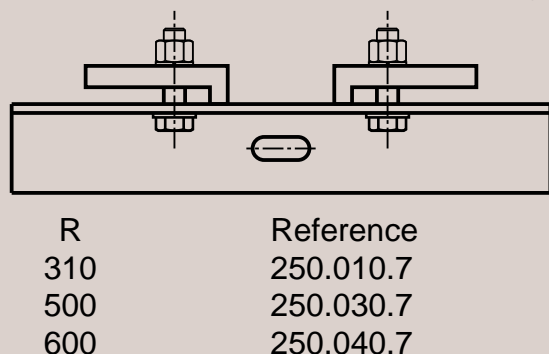
Suspension Piece Type A

The suspension piece type A is welded to the support steelwork and is applicable for track curves with a radius up to and including 600 mm.



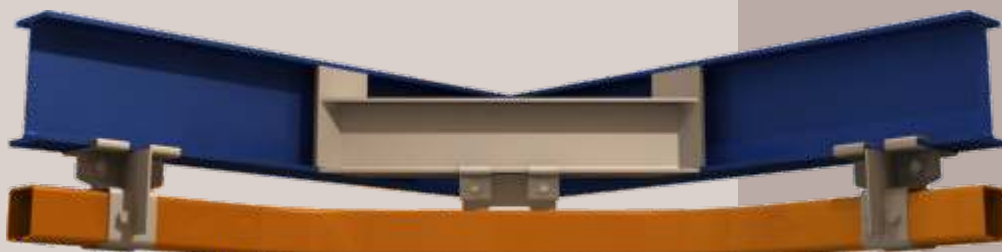
Suspension Piece Type B

The suspension piece type B is clamped to support steelwork executed in IPE-girder 120 up to and including IPE 270 and is applicable for track curves with a radius up to and including 600 mm.



In Addition

The lengthened track curves 90° are fastened to an I-girder of the steelwork with 2 pairs of standard clamps.



All switches are fitted with movable, load bearing tongues.
The switch mechanism is mechanical and is operated by a chain. For the standard mechanism the pull chain is located at 500 mm from the monorail.
On request a lengthened mechanism can be supplied so that the pull chain is suspended further from the track.

Executions of the RAILTECHNIEK switches

The switches are schematically indicated in top view. For the standard execution of the 2 way switches the pull chain for the operation of the switch mechanism is suspended to sideways the straight track. On request the pull chain can be suspended sideways to the track curve.

Code:...../002

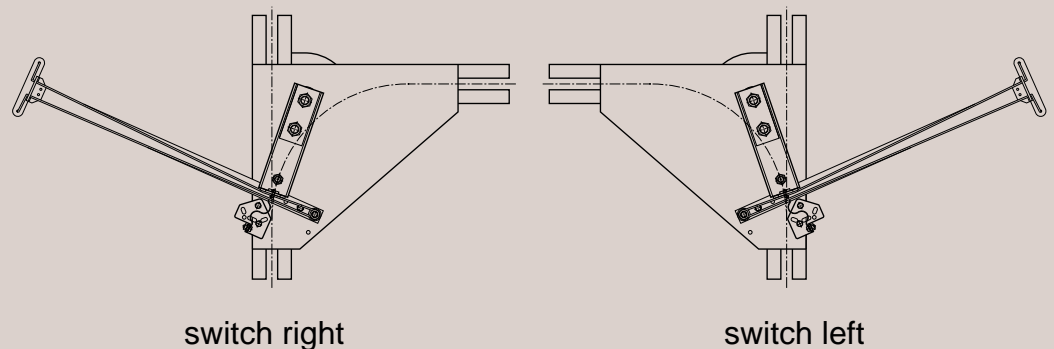
(except for Y-switches)

Remark

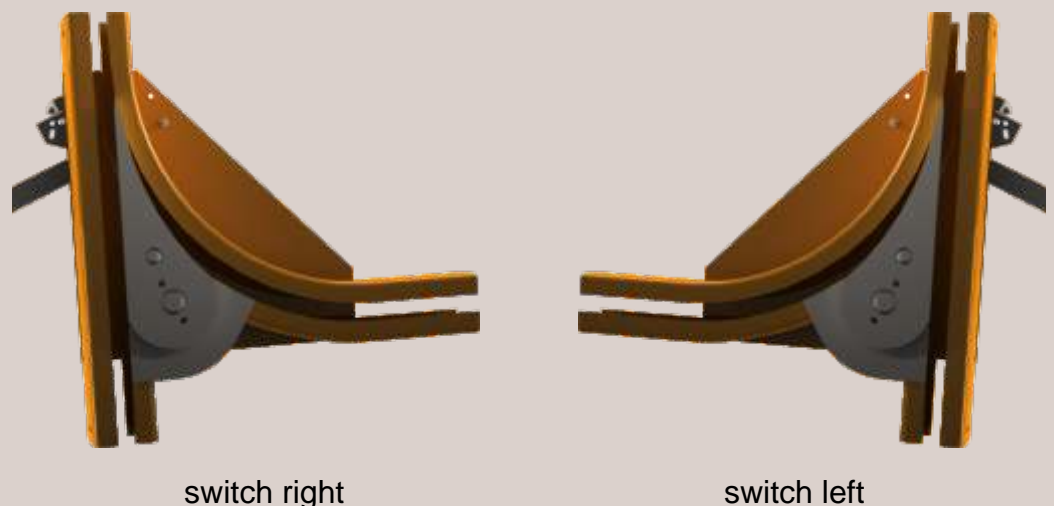
The track switches also can be fitted out with a pneumatic or electrical switching device for farther information please talk to our application engineering department

Schematic view

TOP VIEW

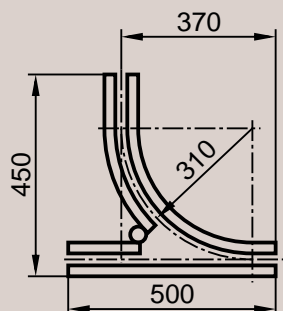


BOTTOM VIEW



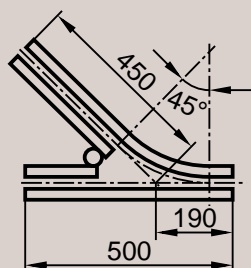
2 Way Switches

90°switch



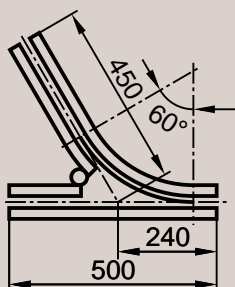
| right | left |
|---------|---------|
| 230.511 | 230.521 |
| 240.511 | 240.521 |
| 250.511 | 250.521 |
| 260.511 | 260.521 |

45°switch



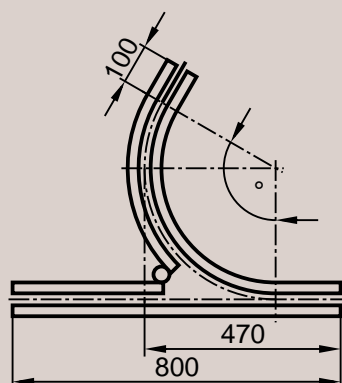
| right | left |
|---------|---------|
| 230.531 | 230.541 |
| 240.531 | 240.541 |
| 250.531 | 250.541 |
| 260.531 | 260.541 |

60°switch



| right | left |
|---------|---------|
| 230.551 | 230.561 |
| 240.551 | 240.561 |
| 250.551 | 250.561 |
| 260.551 | 260.561 |

special switch with any curve angle



| right | left |
|---------------|---------------|
| 230.511/xxx99 | 230.521/xxx99 |
| 240.511/xxx99 | 240.521/xxx99 |
| 250.511/xxx99 | 250.521/xxx99 |
| 260.511/xxx99 | 260.521/xxx99 |

xxx = °

Track Switches

switch with
lengthened
curve

right

230.571

240.571

250.571

260.571

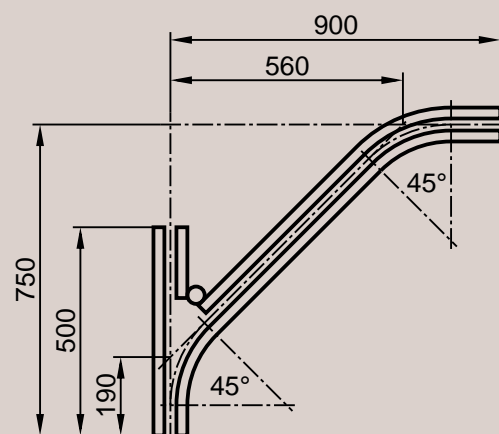
left

230.581

240.581

250.581

260.581



Y-switch: 2 x 45°

pull chain
right

230.621/002

240.621/002

250.621/002

260.621/002

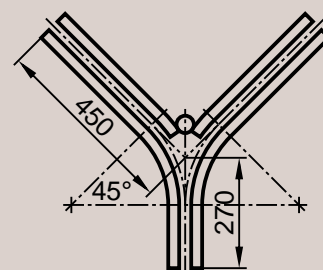
pull chain
left

230.621/001

240.621/001

250.621/001

260.621/001



Y-switch: 2 x 90°

pull chain
right

230.611/002

240.611/002

250.611/002

260.611/002

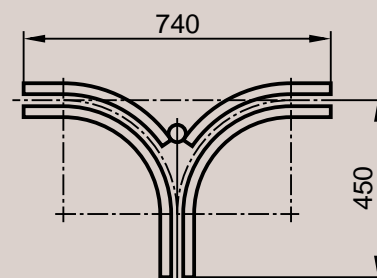
pull chain
left

230.611/001

240.611/001

250.611/001

260.611/001



lengthened
Y-switch: 2 x 90°

pull chain
right

230.591/002

240.591/002

250.591/002

260.591/002

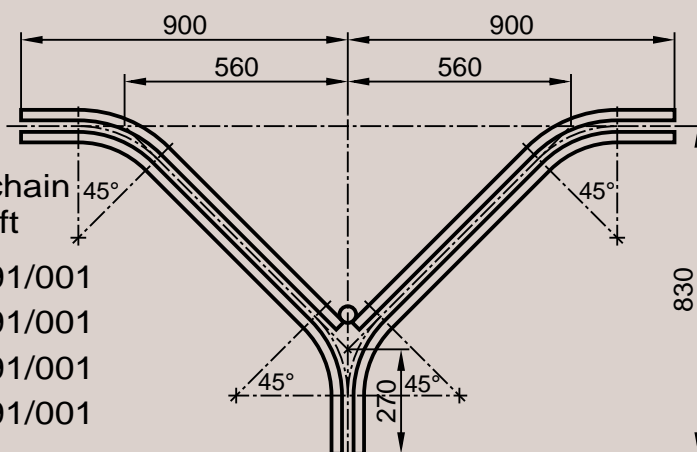
pull chain
left

230.591/001

240.591/001

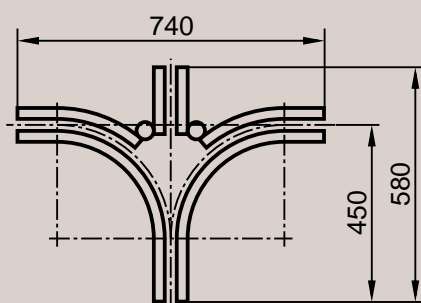
250.591/001

260.591/001



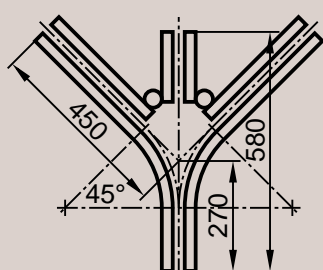
3 Way Switches

3 way switch
2 x 90°



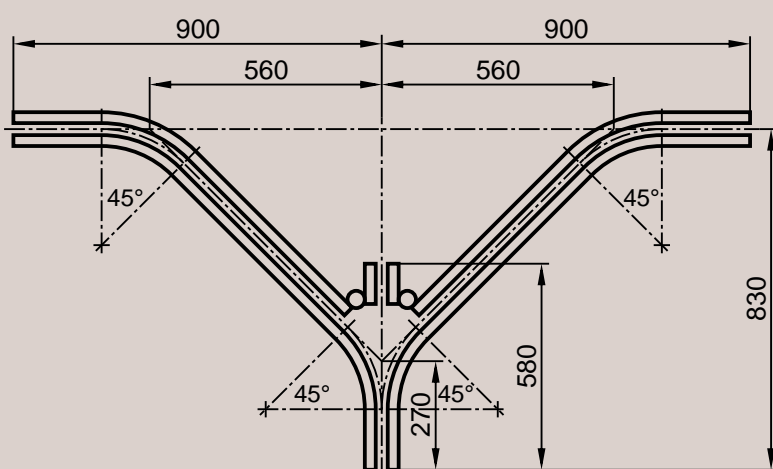
230.671
240.671
250.671
260.671

3 way switch
2 x 45°

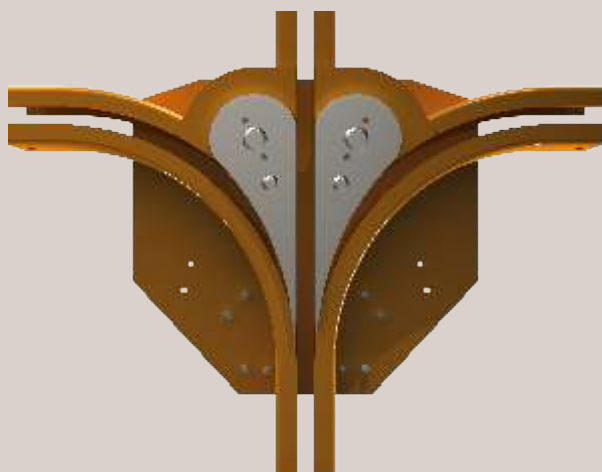


230.681
240.681
250.681
260.681

lengthened 3 way
switch 2 x 90°



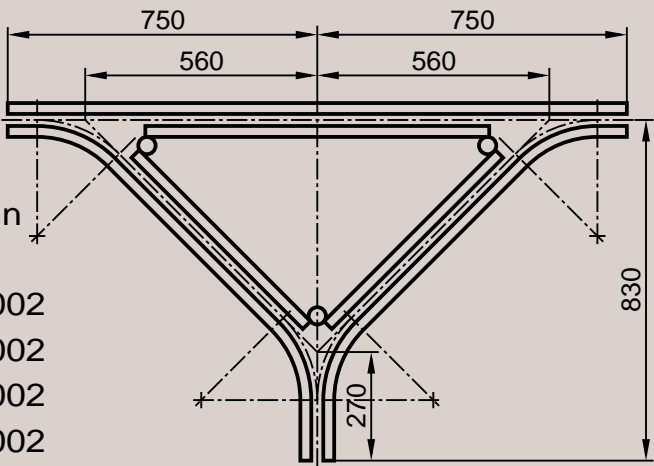
230.791
240.791
250.791
260.791



Composed
T-Switches

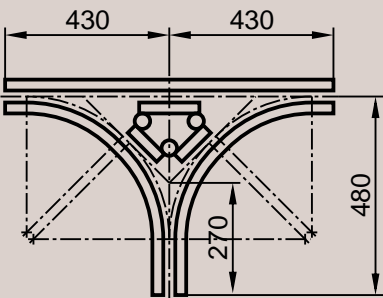
Composed
T-switches
(standard execution)

| pull chain "Y" right | pull chain "Y" left |
|-------------------------|------------------------|
| 230.691/002 | 230.691/002 |
| 240.691/002 | 240.691/002 |
| 250.691/002 | 250.691/002 |
| 260.691/002 | 260.691/002 |

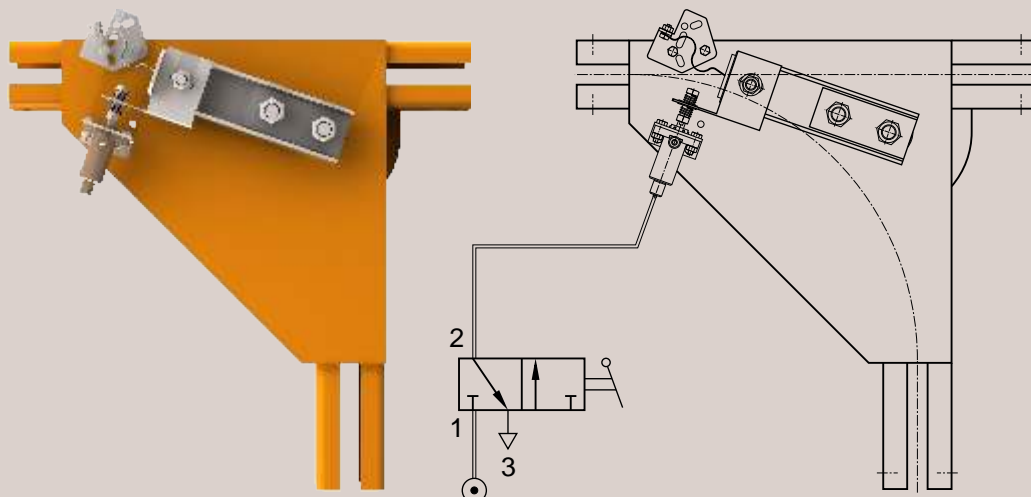


Composed
T-switches
(shortened execution)

| pull chain "Y" right | pull chain "Y" left |
|-------------------------|------------------------|
| 230.781/002 | 230.781/002 |
| 240.781/002 | 240.781/002 |
| 250.781/002 | 250.781/002 |
| 260.781/002 | 260.781/002 |



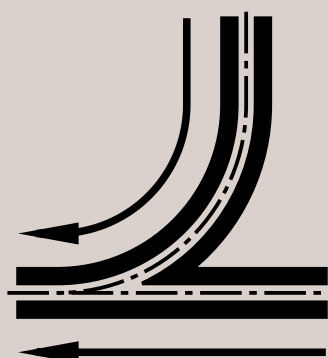
Pneumatically Operated Switches (... ../009)



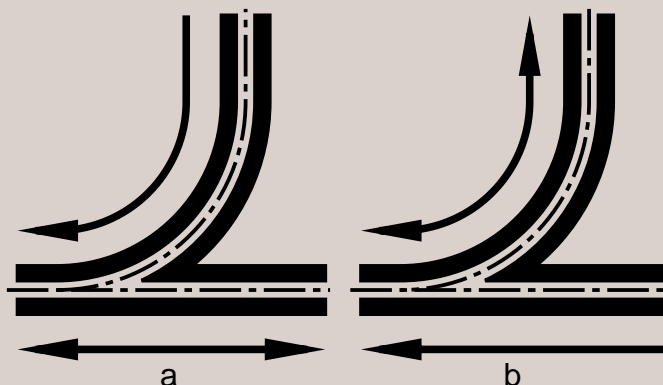
Special Switch Operations

The pull mechanism of these 2 way switches is replaced by a specially adapted mechanism.
As the trolley itself operates the switch, this kind of switches does not need the operator intervention.

Switch without operation (... ../003)



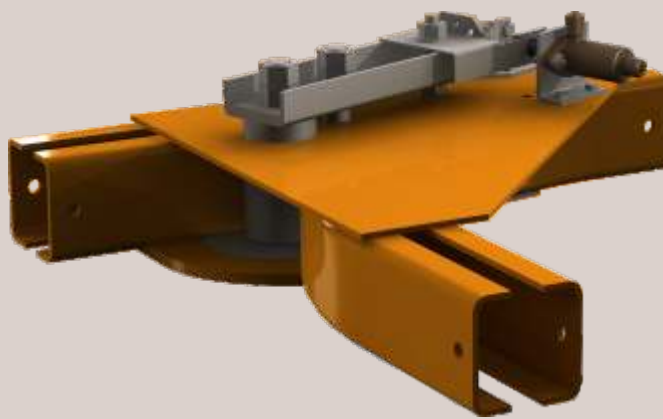
Spring operated switch (... ../007)



Is used when the load is always transferred in the direction of the indicated arrows (see figure)
Codification ...003
E.g. 250.520/003

The load carrying direction tongue of this two way switch is held in a predetermined position by a spring mechanism. The spring mechanism is easy to reverse which makes it possible to choose between the running a or b (see figure)
Code .../007 Ex. 250.520/007

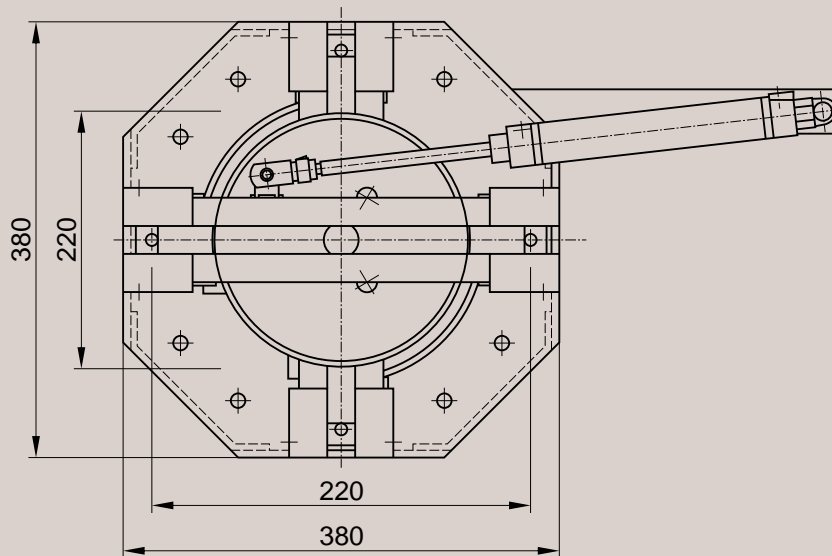
Switch Combinations



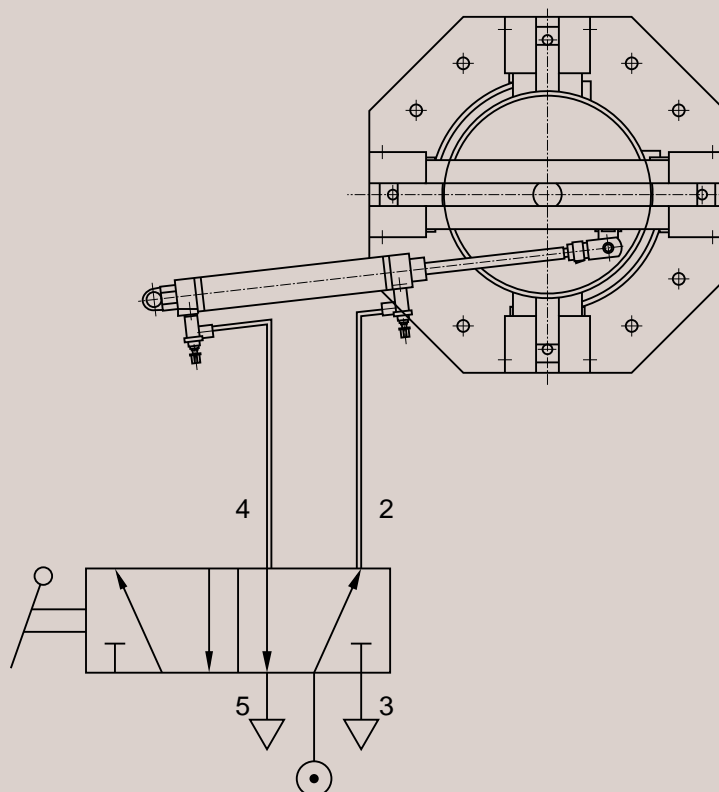
Turntable

The operation of a turntable can be either pneumatic or electric
(Please contact our engineering department for the latter case).

The turntable can only be operated without a trolley in the turntable.

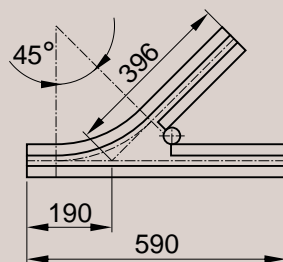
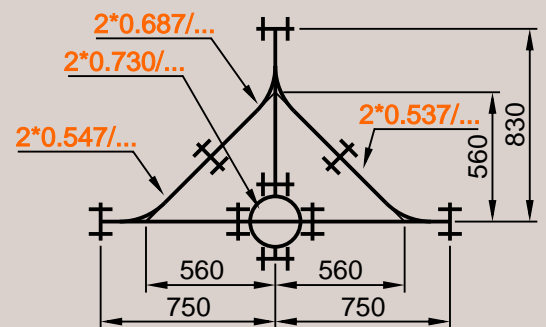
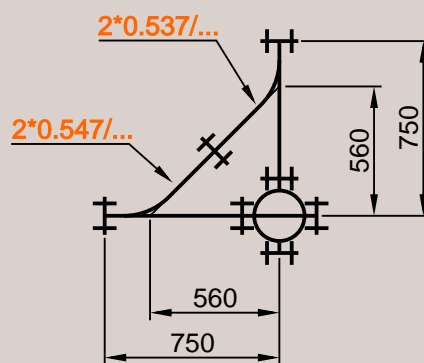
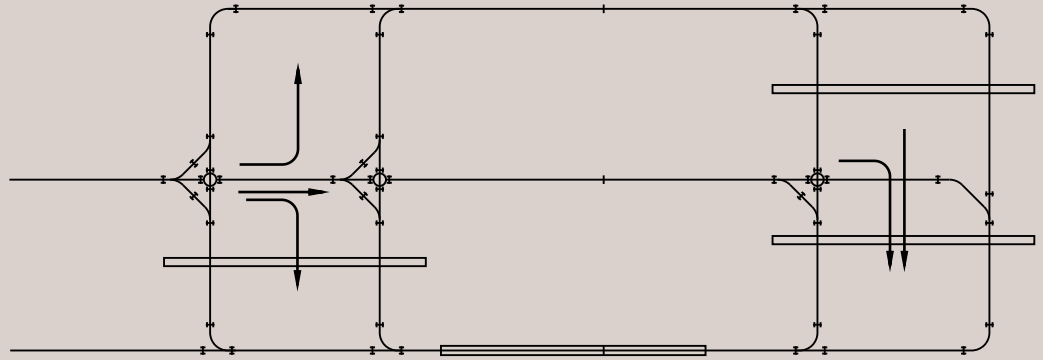


230.730
240.730
250.730

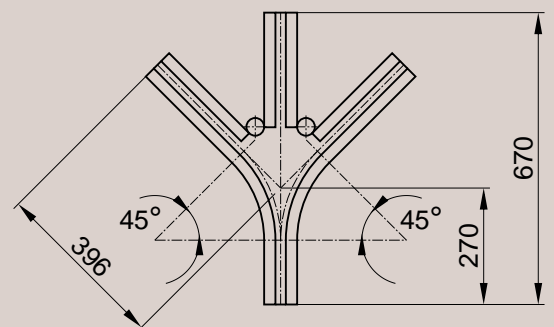


Switch/Turntable Combination

A turntable is commonly used in combination with switches. In order to ease the mounting of these combinations, the use of the switches as follows on is strongly recommended, because of their specially adapted overall dimensions.



2*0.537 right
2*0.547 left



2*0.687

Track switch operating devices

| Description of the switches with standard overall dimensions | code |
|---|-------------|
| - Y-switch - pull chain at the left | /001 |
| - Switch with pull chain sideways to the track curve | /002 |
| - Y-switch with pull chain at the right | /002 |
| - Switch without operation | /003 |
| - Automatic switch for 2-wheeled trolley | /004 |
| - Switch with lengthened pull chain | /005 |
| - Y-switch with lengthened pull chain at the left | /005 |
| - Switch with lengthened pull chain sideways to the track curve | /006 |
| - Y-switch with lengthened pull chain at the right | /006 |
| - Spring operated switch | /007 |
| - Pneumatically operated switch | /009 |
| - Automatic switch for 4-wheeled trolley | /024 |
| - Automatic pneumatically operated switch | /094 |

| Description of the switches with adapted overall dimensions | code |
|---|---------|
| - 2 way switch 45° right | 2*0 733 |
| - 2 way switch 45° left | 2*0 734 |
| - 3 way switch | 2*0 738 |

3 Way Switch With Special Switch Operating Device

This 3 way switch is composed of a combination of switches with different functions.
e.g. A 3 way switch may be composed of a switch without operation and of a second one spring operated.

As this 3 way switch is composed of two separate working switches the function is indicated with a identification number of 5 figures which follows the order number of the switch.

The first three figures of the codification refer to the mechanism of the right switch and the last two figures of the identification number refer to the mechanism of the left switch.

The reference is for instance : 250.607/00307

This is a 3 way switch 2 x 90° of which the switch without operation is the right one and the

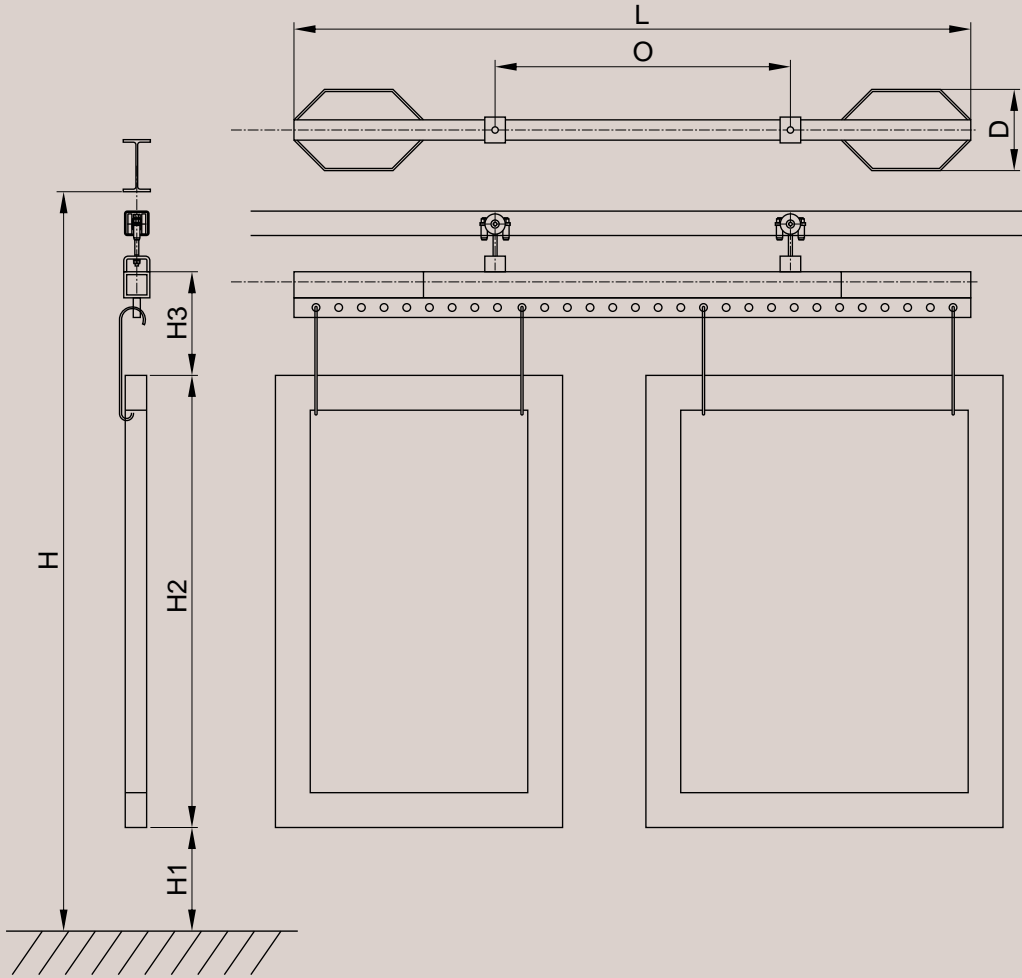
Switches With Lengthened Pull Chain

The switches are fitted out with a lengthened pull chain in case of transport of large loads.
In this execution the pull chain is suspended at 1 m from the monorail.

Identification number:

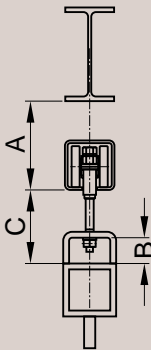
e.g.: - Standard switch - with lengthened pull chain: 240.510.005
 - Y-switch - with lengthened pull chain left: 240.620.005
 - Y-switch - with lengthened pull chain right: 240.620.006

The use of loadbars allows the transport of several products together. A loadbar consists of a flightbar with a buffer on both sides. The single or double trolleys are mounted on fixings that are welded on the crossbar at a distance equal to the parallel track width in the monorail circuit. These fixings ensure that **pendant** connections between the trolleys and the loadbar are kept constant, in order to avoid excessive wearing of the curves and the track switches.

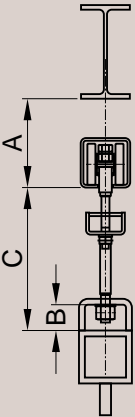


Trolley

Single Trolley



Double Trolley



| | trolley | A | B | C |
|---------|-------------|-----|----|-------|
| 230.000 | 234.010.001 | 126 | 50 | 113 |
| | 234.040.001 | | | 213 |
| 240.000 | 244.010.001 | 134 | 50 | 114.5 |
| | 244.040.001 | | | 213 |
| 250.000 | 254.010.001 | 160 | 50 | 143 |
| | 254.040.001 | | | 215 |

2.4.010.001

2.4.040.001

Instructions for use

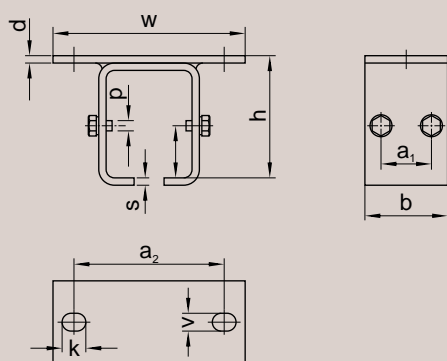
The brackets are subdivided in to standard and joining brackets.

A standard bracket is used as suspension point for the track.

A joining bracket is used as suspension point where two tracks are joined.

A monorail installation can be mounted directly to a ceiling (subject to the ceiling strong enough) or to a horizontal mounting face.

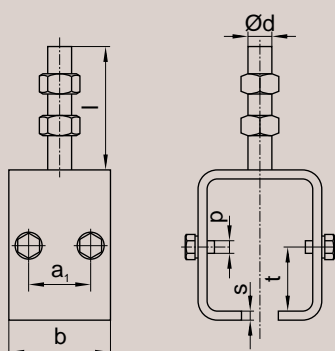
If switches are applied in an overhead runway a headroom of 60 mm should be provided.



2*1.230

| standard bracket | joining bracket | w | h | a ₁ | a ₂ | b | s | t | v | k | p | d |
|------------------|-----------------|-----|-----|----------------|----------------|----|---|----|-----|----|-----|---|
| 231.230 | 231.240 | 142 | 82 | 35 | 108 | 60 | 6 | 33 | Ø13 | - | M8 | 6 |
| 241.230 | 241.240 | 160 | 94 | 35 | 124 | 60 | 8 | 37 | Ø14 | - | M10 | 8 |
| 251.230 | 251.240 | 185 | 119 | 50 | 145 | 80 | 8 | 50 | 17 | 22 | M10 | 8 |

Finish: painted



2*1.340

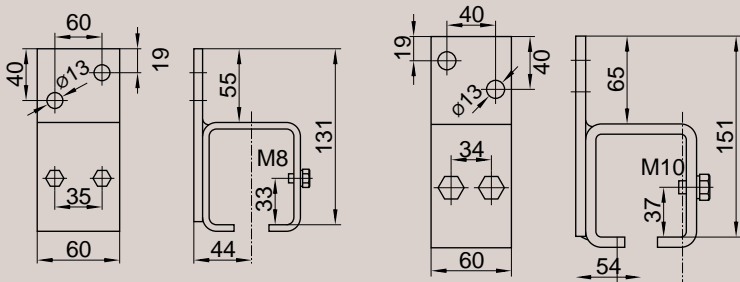
| standard bracket | joining bracket | Ød | l | b | s | a ₁ | t | p |
|------------------|-----------------|-----|----|----|---|----------------|----|-----|
| 231.310 | 231.340 | M12 | 72 | 60 | 6 | 35 | 33 | M8 |
| 241.310 | 241.340 | M16 | 75 | 60 | 8 | 34 | 37 | M10 |
| 251.310 | 251.340 | M20 | 95 | 80 | 8 | 50 | 50 | M10 |

Finish: electro galvanized

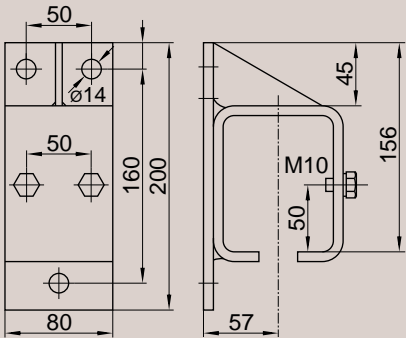
Ceiling Mounted Bracket

Brackets on Threaded Rod

Wall Fixing
Bracket



- * standard bracket: 231.130
- ** jointing bracket: 231.140
- * 241.130
- ** 241.140

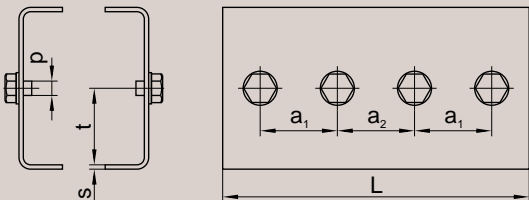


2*1.130
Finishing: painted

- * 251.130
- ** 251.140

Jointing
Piece

A jointing piece is used if there is no suspension point and if two track ends are to be linked.
The jointing piece should be placed as close as possible to a bracket.

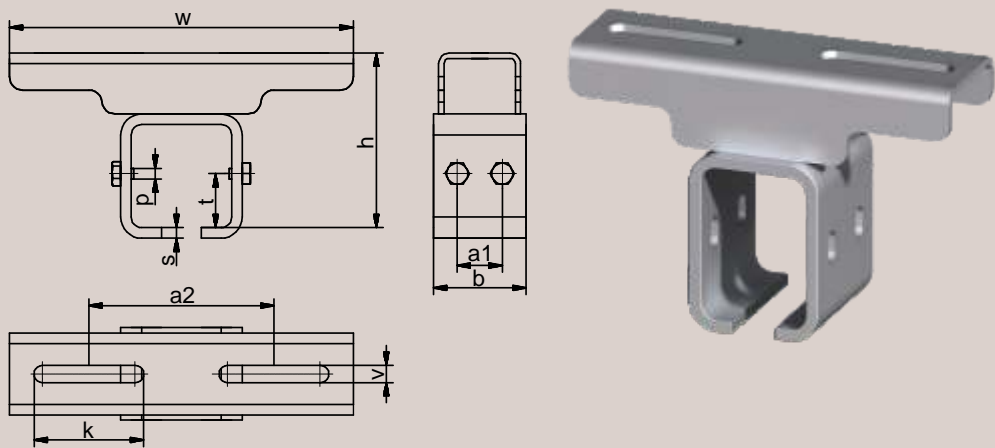


| standard execution | execution for switch | L | a ₁ | a ₂ | t | s | P |
|--------------------|----------------------|-----|----------------|----------------|----|---|-----|
| 231.910 | 231.990 | 160 | 35 | 35 | 33 | 3 | M8 |
| 241.910 | 241.990 | 160 | 35 | 35 | 37 | 3 | M10 |
| 251.910 | 251.990 | 200 | 50 | 50 | 50 | 4 | M10 |

Finishing: electro galvanised

Universal
Mounted
Bracket

A monorail installation can be mounted directly to a ceiling (subject to the ceiling strong enough) or to a horizontal mounting face.
If switches are applied in an overhead runway a headroom of 60 mm should be provided.

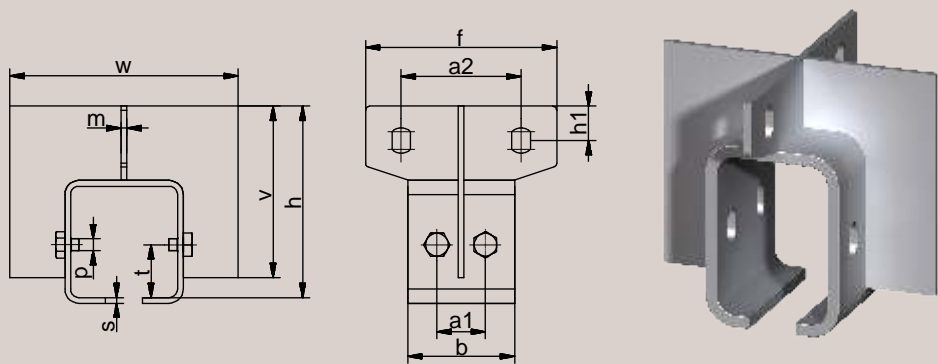


| standard bracket | jointing bracket | w | h | a ₁ | a ₂ | b | s | t | v | k | p |
|---------------------|---------------------|-----|-----|----------------|----------------|-----|---|----|----|----|-----|
| RT-36053 | RT-36054 | 142 | 82 | 35 | 108 | 60 | 6 | 33 | 13 | -- | M10 |
| RT-32678 | RT-32675 | 260 | 134 | 35 | 140 | 70 | 8 | 37 | 13 | 84 | M10 |
| RT-36685 | RT-36682 | 260 | 160 | 50 | 145 | 100 | 8 | 50 | 17 | 91 | M10 |

Finishing: painted

Bracket for
parallel fixing

A monorail can be mounted under an I-girder in a longitudinal direction.
On request heightened brackets can be supplied.
In this case the measure “h” should be mentioned.

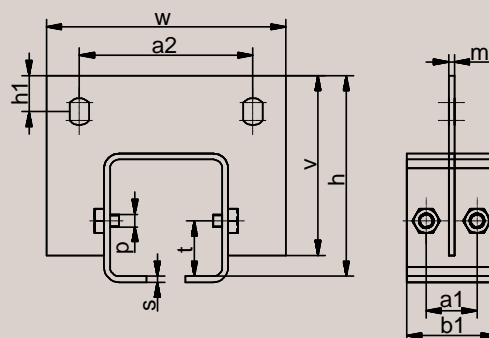
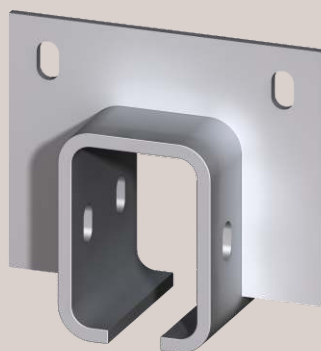


| standard bracket | jointing bracket | w | h | m | v | f | t | s | a ₁ | a ₂ | b | p | h ₁ |
|---------------------|---------------------|-----|-----|---|-----|-----|----|---|----------------|----------------|-----|-----|----------------|
| 231.750 | 231.760 | 150 | 126 | 4 | 120 | 134 | 33 | 4 | 35 | 84 | 65 | M8 | 24 |
| 241.750 | 241.760 | 160 | 134 | 4 | 120 | 134 | 37 | 4 | 34 | 84 | 75 | M10 | 24 |
| 251.750 | 251.760 | 180 | 160 | 5 | 140 | 185 | 50 | 5 | 50 | 124 | 100 | M10 | 26 |

Finishing: painted

Bracket for cross fixing

This bracket enables a mounting of the monorail under an I-girder in a diagonal direction. On request heightened brackets can be supplied. In this case the measure "h" should be mentioned.



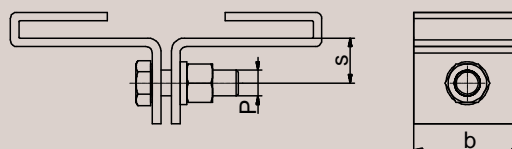
| standard bracket | jointing bracket | w | h | m | v | a ₁ | a ₂ | b | t | s | p | h ₁ |
|------------------|------------------|-----|-----|---|-----|----------------|----------------|-----|----|---|-----|----------------|
| 231.710 | 231.720 | 150 | 126 | 4 | 120 | 35 | 106 | 65 | 33 | 4 | M8 | 24 |
| 241.710 | 241.720 | 160 | 134 | 4 | 120 | 34 | 116 | 75 | 37 | 4 | M10 | 24 |
| 251.710 | 251.720 | 180 | 160 | 5 | 140 | 50 | 135 | 100 | 50 | 5 | M10 | 26 |

Finishing: painted

Clips for I-Girder 240.000

Clips for parallel or cross fixing are used to mount a monorail directly under an I-girder.

Two clips, fitted to the lowest width of the flange, have to be provided for each bracket.



| Track | s | b | P |
|---------|----|----|-----|
| 230.000 | 21 | 40 | M12 |
| 240.000 | 21 | 50 | M12 |
| 250.000 | 21 | 60 | M14 |

Clip for IPE-girder

| IPE 100 | 231.850/10 | 241.850/10 | 251.850/10 |
|---------|------------|------------|------------|
| 120 | 231.850/12 | 241.850/12 | 251.850/12 |
| 140 | 231.850/14 | 241.850/14 | 251.850/14 |
| 160 | 231.850/16 | 241.850/16 | 251.850/16 |
| 180 | 241.850/18 | 241.850/18 | 251.850/18 |
| 200 | 241.850/20 | 241.850/20 | 251.850/20 |
| 220 | 241.850/22 | 241.850/22 | 251.850/22 |
| 240 | 241.850/24 | 241.850/24 | 251.850/24 |
| 270 | 241.850/27 | 241.850/27 | 251.850/27 |

Finishing: electro galvanised

The interruption of a monorail is often necessary in the case of fire proof doors, sliding doors for ovens, locking devices for unloading areas, roller shutters, guillotine doors, etc.

The built-in security guarantees that the monorail interrupter cannot open in the instance where a trolley is inside the unit.

A left or a right turning operation is available.

Execution

Mechanical or pneumatic operation is available.

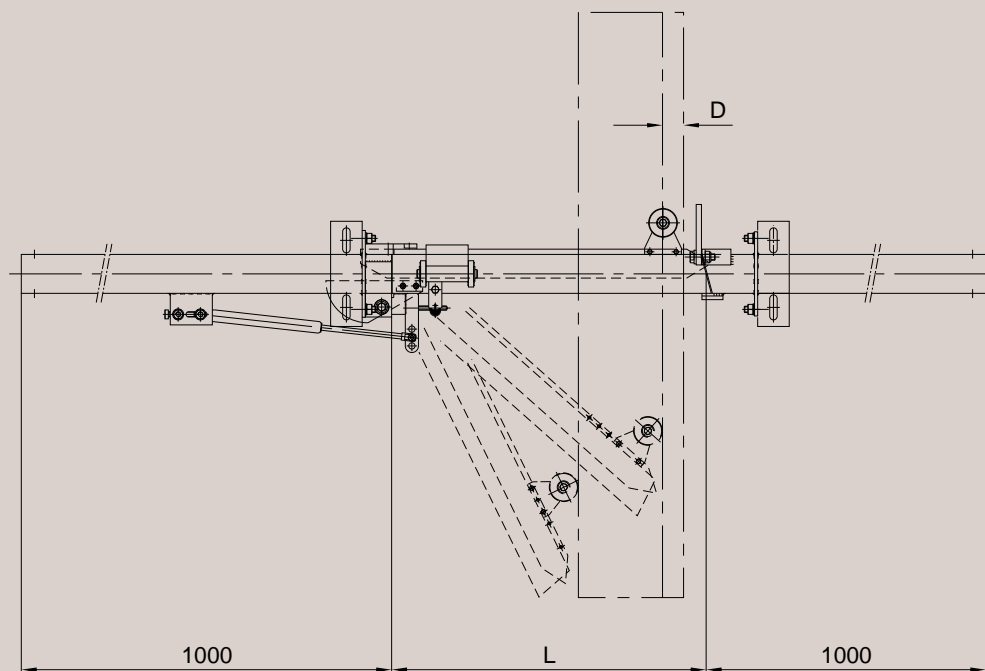
Mechanical Operation

In case of mechanical operation the sliding door opens the interrupter.

The closing of the interrupter is by a spring mechanism.

The track length "L" is determined as a function of the door thickness "D"

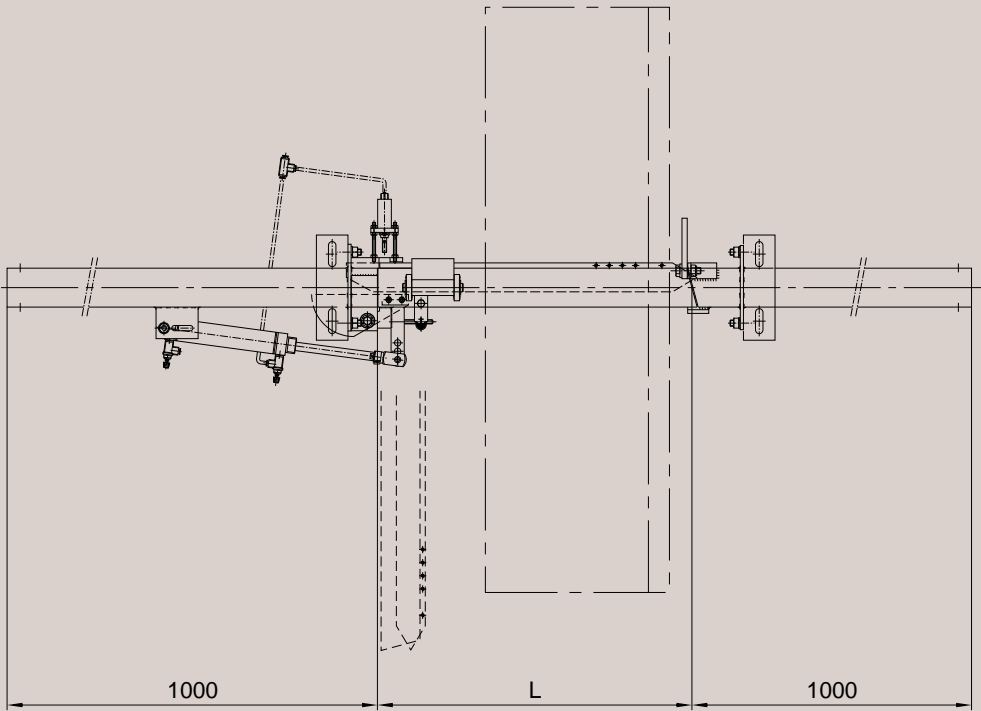
A specific door thickness corresponds with a 4 digit code, which follows the order reference.



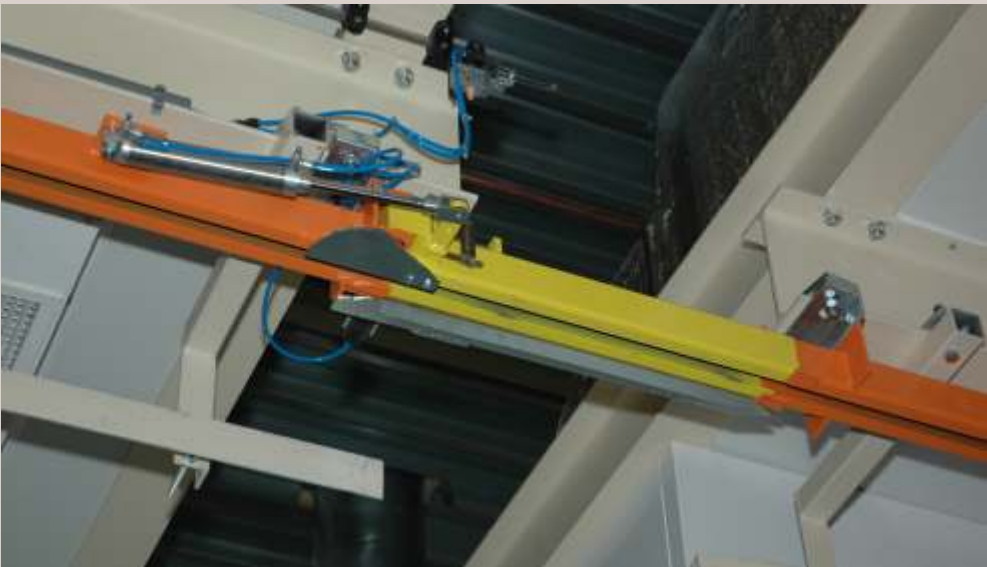
| Door thickness | Code |
|----------------|------|
| 0 to 50 | 0050 |
| 50 to 80 | 0080 |
| 80 to 125 | 0125 |
| 125 to 170 | 0170 |
| 170 to 200 | 0200 |

Pneumatic
Operation

In this case the interrupter is opened by a pneumatic cylinder.
The track length is standard executed with L= 550 mm. In open position the
free passage is 320 mm



| Monorail interrupter | | | |
|----------------------|--------------|--------------------|-------------|
| Mechanical rotation | | Pneumatic rotation | |
| Right | Left | Right | Left |
| 232.110 code | 232.120 code | 232.110.009 | 232.120.009 |
| 242.110 code | 242.120 code | 242.110.009 | 242.120.009 |
| 252.110 code | 252.120 code | 252.110.009 | 252.120.009 |



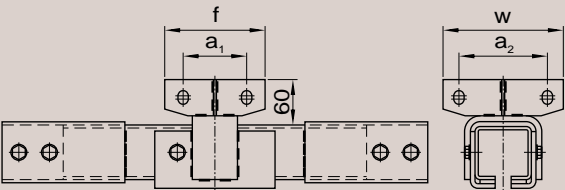
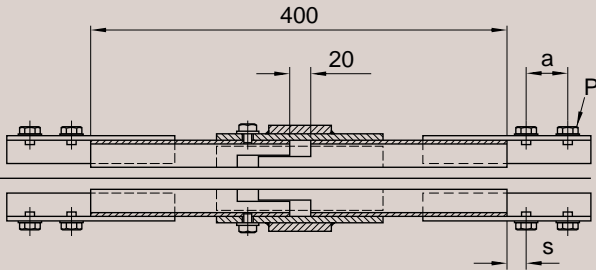
General

This device is used for applications where the track can expand e.g. safety tracks or ovens. The expansion device is composed of a special bracket with tracks finished at one side as indicated by the drawing.

According to the fastening possibilities the following options are available.

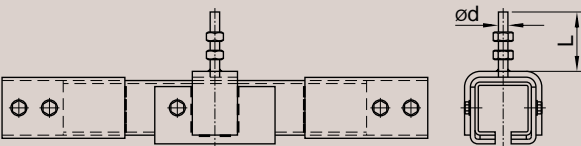
To calculate the number of expansion devices one should take into account that for each expansion device the maximum expansion is 20 mm. The expansion devices are mounted with the maximum opening so that the tracks can expand in case of temperature increase.

| | P | S | a |
|---------|-----|------|----|
| 230.000 | M8 | 18.5 | 40 |
| 240.000 | M10 | 20 | 40 |
| 250.000 | M10 | 25 | 50 |



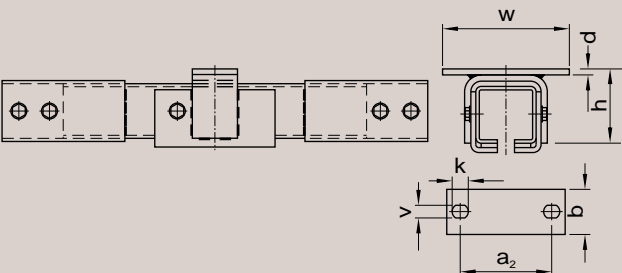
| Reference | w | a ₁ | a ₂ | f |
|-------------|-----|----------------|----------------|-----|
| 231.970.400 | 150 | 84 | 84 | 134 |
| 241.970.400 | 160 | 84 | 84 | 134 |
| 251.970.400 | 180 | 124 | 124 | 185 |

Expansion Bracket for I-Grider



| Reference | L | ød |
|-------------|----|-----|
| 231.950.400 | 72 | M12 |
| 241.950.400 | 74 | M16 |
| 251.950.400 | 95 | M20 |

Expansion Bracket on Threaded Rod

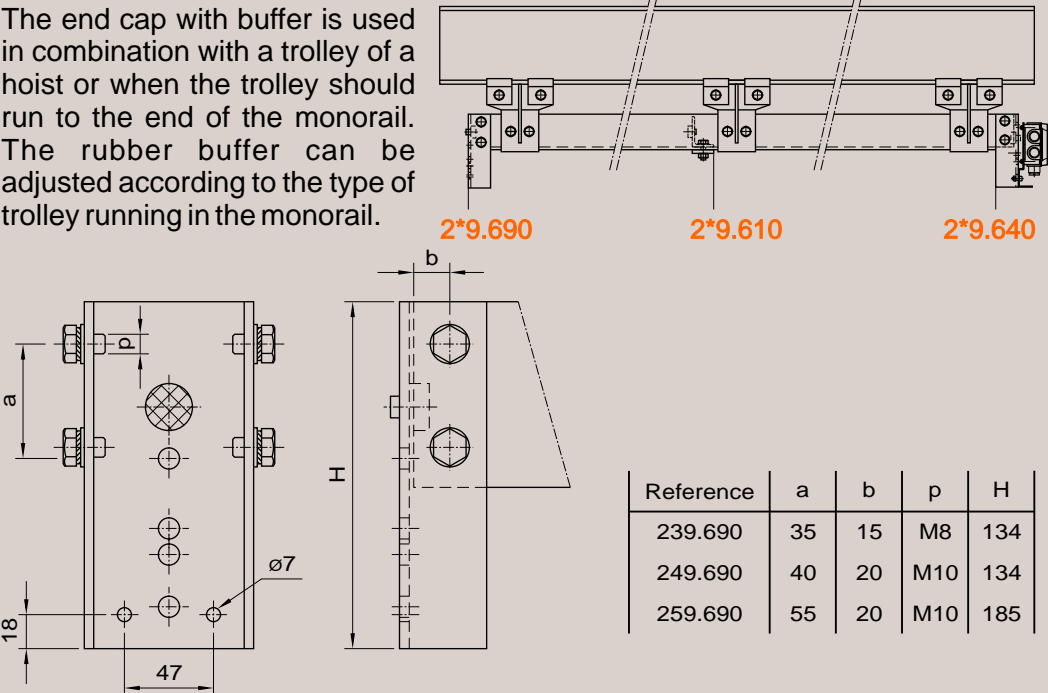


| Reference | w | a ₂ | v | k | d | b | h |
|-------------|-----|----------------|-----|----|---|----|-----|
| 231.980.400 | 142 | 108 | ø13 | - | 6 | 60 | 82 |
| 241.980.400 | 160 | 124 | ø14 | - | 8 | 60 | 94 |
| 251.980.400 | 145 | 145 | 17 | 22 | 8 | 80 | 119 |

Expansion Ceiling Mounted Bracket

End Cap With Buffer

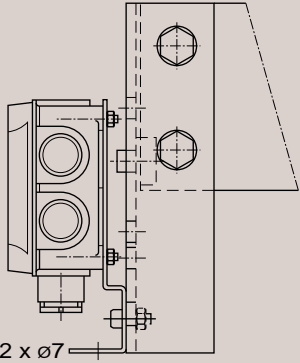
The end cap with buffer is used in combination with a trolley of a hoist or when the trolley should run to the end of the monorail. The rubber buffer can be adjusted according to the type of trolley running in the monorail.



End Cap With Connecting Box

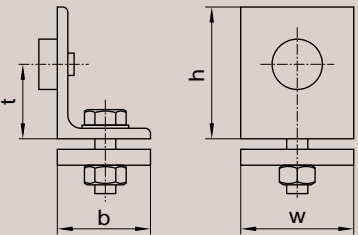
This end cap is provided with a connecting box for flat and flexible electric cables and with fixing holes for the fastening of a cable clamp.

| Track | End cap |
|---------|---------|
| 239.640 | 134 |
| 249.640 | 134 |
| 259.640 | 185 |



Rail Stop

The rail stop is used to limit the runway in a monorail. It is advisable to mount the stop before a bracket.



| Reference | t | b | h | W |
|-----------|----|----|----|----|
| 239.610 | 28 | 50 | 50 | 45 |
| 249.610 | 30 | 40 | 60 | 56 |
| 259.610 | 40 | 50 | 70 | 60 |

General

Railtechnik developed a complete range of standard wheelsets to which a specific item such as a bolt, a hook etc... fits according the application. All wheelsets are mounted on ball-bearings. The wheels are working independently and are mounted two by two (bogie arrangement). Depending on the application there is the choice between 2-wheeled, 4-wheeled or 8-wheeled trolleys. All trolleys can rotate on their vertical axis (except series550). The trolleys are also provided with vertical guides in order to avoid the overturning and to assure a perfect guidance during the translation. The standard trolleys are fitted for temperatures of maximum 100 °C. In case of working conditions up to 150 °C or up to 300 °C, the trolleys are mounted on special high temperature ball bearings.

The code of the trolleys changes according to the working conditions : e.g. :

| | | | |
|------|--------------|--------------|--------------|
| | Up to 100 °C | Up to 150 °C | Up to 300 °C |
| Ref. | 244 010/1 | 243 510/1 | 243 010/1 |

Carrying capacity of the trolleys

In the tables the maximum carrying capacity 'F' is indicated.

In order to calculate the carrying capacity F, the real net load has to be increased with the operating coefficient and the temperature coefficient 'y'.

$$F = F_n \times x \times y$$

Remark:

The maximum admissible carrying capacity "F" of the trolleys is indicated in the tables with operating coefficient $x=1$ and temperature coefficient $y=1$.

Note:

The maximum temperature for trolleys with nylon wheels is 80 °C.
Finishing: electro galvanized

OPERATING COEFFICIENT

| Kind of operating | Coefficient |
|---|-------------|
| I. Very moderate use, no shock or impact load (e.g. the daily transfer of a load along some meters) | 1 |
| II. Normal use, very light shock or impact load (e.g. automatic equal motion with a speed of max. 10 m/min., motion time of the trolleys up to 20 % max.) | 1.21 |
| III. Frequent use, light shock or impact load (e.g. manual motion with unequal speed, motion time of the hangers 20 to 50 %). | 1.33 |
| IV. Very frequent use, shock or impact load (e.g. continuous working automatic installations, motion time of the hangers 50 to 100 %) | 2 |

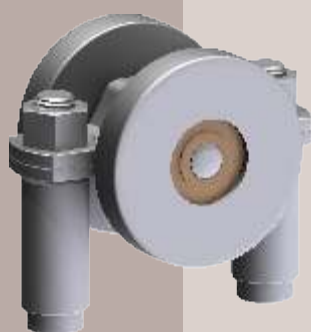
TEMPERATURE COEFFICIENT y

| Temperature | Temperature coefficient y |
|-------------|---------------------------|
| 15 à 100 °C | = 1 |
| à 150 °C | = 1.05 |
| à 200 °C | = 1.15 |
| à 225 °C | = 1.25 |
| à 250 °C | = 1.35 |
| à 275 °C | = 1.50 |
| à 300 °C | = 1.70 |

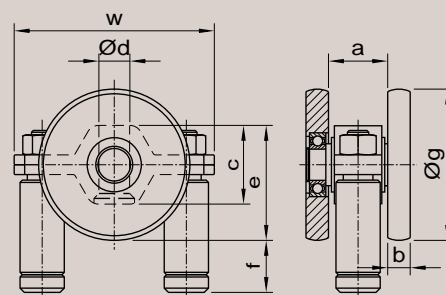
Table:1

Table:2

Wheelset 100°C



These wheelsets are mounted on sealed ball bearings and are greased for life.

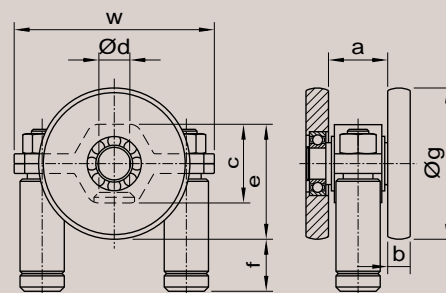


| | F*(kg) | a | b | c | Ød | e | f | Øg | w |
|---------------------|--------|----|-----|------|------|----|------|------|------|
| <u>Steel wheels</u> | | | | | | | | | |
| 234.010/1 | 125 | 25 | 9.5 | 27.5 | 12.2 | 41 | 19 | 54.5 | 90 |
| 244.010/1 | 250 | 30 | 12 | 32 | 12.2 | 48 | 20.5 | 61.5 | 91.5 |
| 254.010/1 | 500 | 31 | 12 | 39 | 16.2 | 59 | 27.5 | 79.2 | 105 |
| <u>Nylon wheels</u> | | | | | | | | | |
| 234.015/1 | 125 | 24 | 10 | 27.5 | 12.2 | 41 | 18.5 | 54.6 | 90 |
| 244.015/1 | 200 | 30 | 12 | 32 | 12.2 | 49 | 19.5 | 63.5 | 91.5 |
| 254.015/1 | 300 | 31 | 12 | 39 | 16.2 | 56 | 31 | 72.5 | 105 |

Wheelset 150°C



These wheelsets are mounted on open ball bearings which are greased with special grease fitted for high temperature. Nothing but oil or grease specially adapted for high temperature, may be used for further lubricating.

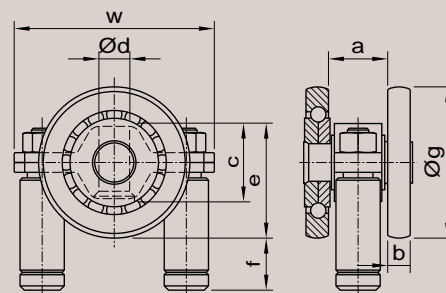


| | F*(kg) | a | b | c | Ød | e | f | Øg | w |
|-----------|--------|----|-----|------|------|----|------|------|------|
| 233.510/1 | 125 | 25 | 9.5 | 27.5 | 12.2 | 41 | 19 | 54.5 | 90 |
| 243.510/1 | 250 | 30 | 12 | 32 | 12.2 | 48 | 20.5 | 61.5 | 91.5 |
| 253.510/1 | 500 | 31 | 12 | 39 | 16.2 | 59 | 27.5 | 79.2 | 105 |

Wheelset 300°C

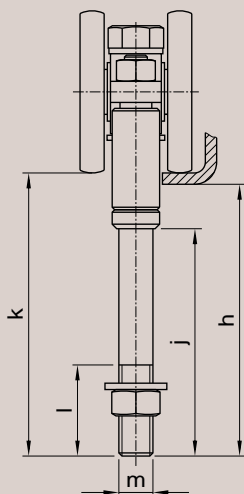
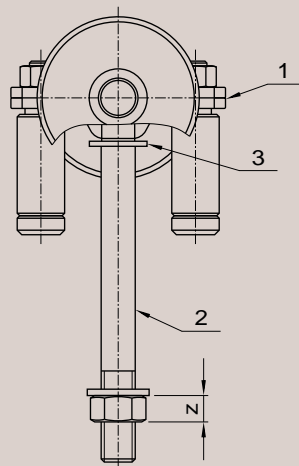


These wheelsets are mounted on open ball bearings which are greased with special grease fitted for high temperature. Further lubricating can be done manually or automatically. Nothing but oil or grease specially adapted for high temperature, may be used for further lubricating.



| | F*(kg) | a | b | c | Ød | e | f | Øg | w |
|-----------|--------|----|------|------|------|------|------|----|------|
| 233.010/1 | 125 | 24 | 10 | 27.5 | 12.2 | 42 | 18 | 56 | 90 |
| 243.010/1 | 250 | 30 | 12 | 32 | 12.2 | 47 | 19.5 | 62 | 91.5 |
| 253.010/1 | 500 | 30 | 12.5 | 39 | 16.2 | 59.5 | 27 | 80 | 105 |

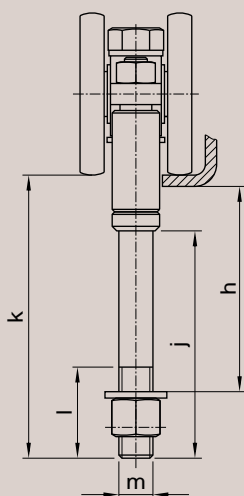
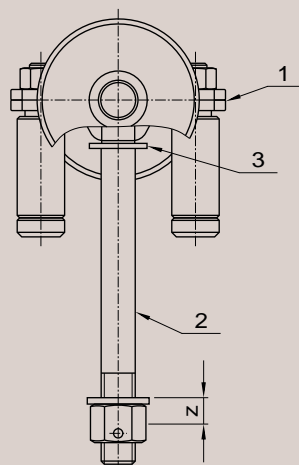
2-Wheeled Trolley With Bolt



2*4.010

| | F*(kg) | h | j | k | l | m | z | 1 | 2 | 3 |
|---------------------|--------|------|-------|------|----|-----|----|-----------|-------------|----------|
| Steel wheels | | | | | | | | Wheelset | Bolt DIN931 | Starlock |
| 234.010 | 125 | 94.5 | 78.5 | 97.5 | 36 | M12 | 10 | 234.010/1 | M12 x 140 | Ø10 |
| 244.010 | 250 | 96 | 79 | 100 | 36 | M12 | 10 | 244.010/1 | M12 x 150 | Ø12 |
| 254.010 | 500 | 133 | 110.5 | 138 | 44 | M16 | 13 | 254.010/1 | M16 x 200 | Ø16 |
| Nylon wheels | | | | | | | | | | |
| 234.015 | 125 | 94.5 | 78.5 | 97.5 | 36 | M12 | 10 | 234.015/1 | M12 x 140 | Ø10 |
| 244.015 | 200 | 95 | 79 | 99 | 36 | M12 | 10 | 244.015/1 | M12 x 150 | Ø12 |
| 254.015 | 300 | 136 | 110.5 | 141 | 44 | M16 | 13 | 254.015/1 | M12 x 200 | Ø16 |

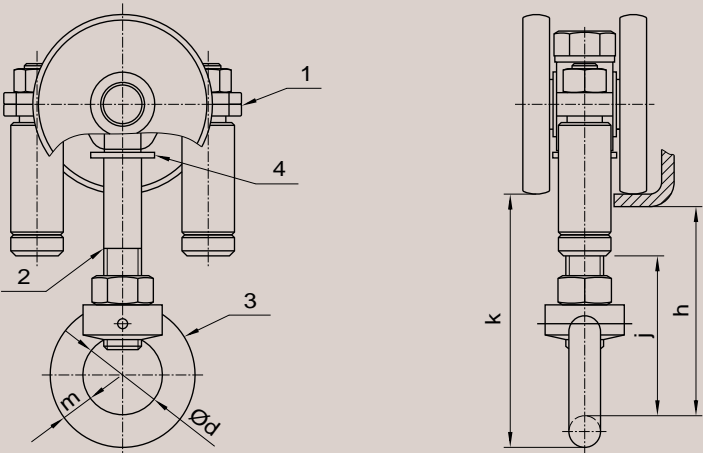
2-Wheeled Trolley With Bolt With Longer Nut And Clamping Pin



2*4.010/001

| | F*(kg) | h | j | k | l | m | z | 1 | 2 | 3 |
|---------------------|--------|------|-------|------|----|-----|----|-----------|-------------|----------|
| Steel wheels | | | | | | | | Wheelset | Bolt DIN931 | Starlock |
| 234.010/001 | 125 | 72 | 78.5 | 97.5 | 36 | M12 | 16 | 234.010/1 | M12 x 140 | Ø10 |
| 244.010/001 | 250 | 71.5 | 79 | 100 | 36 | M12 | 16 | 244.010/1 | M12 x 150 | Ø12 |
| 254.010/001 | 500 | 101 | 110.5 | 138 | 44 | M16 | 20 | 254.010/1 | M16 x 200 | Ø16 |

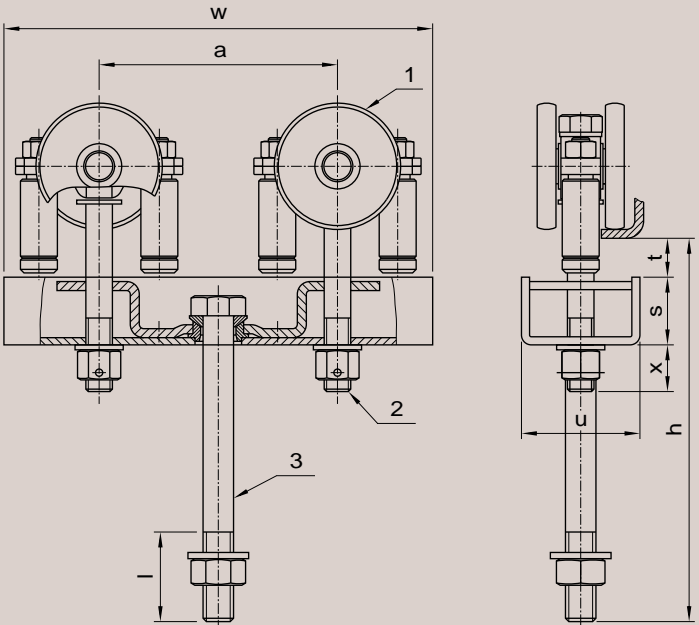
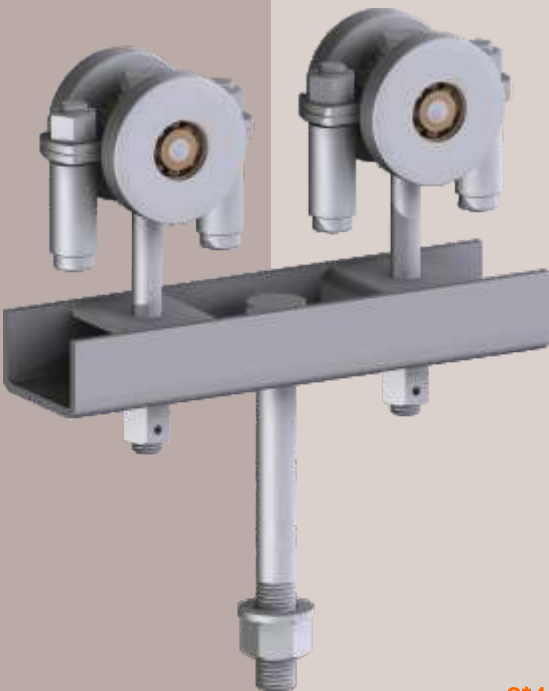
2-Wheeled Trolley
With Eye Nut



2*4.010/003

| | F*(kg) | h | j | k | Ød | m | 1 | 2 | 3 | 4 |
|--------------|--------|----|------|-----|----|----|-----------|-------------|---------|----------|
| Steel wheels | | | | | | | Wheelset | Bolt DIN931 | Eye nut | Starlock |
| 234.010/003 | 125 | 71 | 55 | 85 | 30 | 11 | 234.010/1 | M12 x 90 | M12 | Ø10 |
| 244.010/003 | 250 | 62 | 45.5 | 77 | 30 | 11 | 244.010/1 | M12 x 90 | M12 | Ø12 |
| 254.010/003 | 500 | 92 | 69.5 | 111 | 35 | 14 | 254.010/1 | M16 x 130 | M16 | Ø16 |
| Nylon wheels | | | | | | | | | | |
| 234.015/003 | 125 | 71 | 55 | 85 | 30 | 11 | 234.015/1 | M12 x 90 | M12 | Ø10 |
| 244.015/003 | 200 | 61 | 45.5 | 76 | 30 | 11 | 244.015/1 | M12 x 90 | M12 | Ø12 |
| 254.015/003 | 300 | 95 | 69.5 | 114 | 35 | 14 | 254.015/1 | M12 x 130 | M16 | Ø16 |

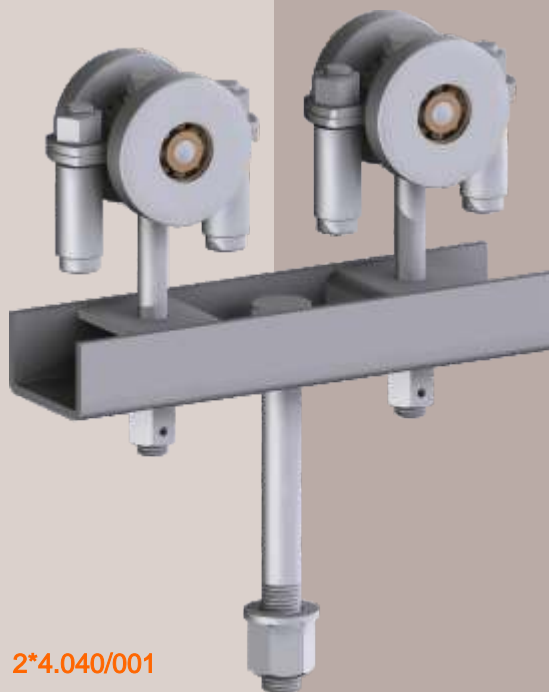
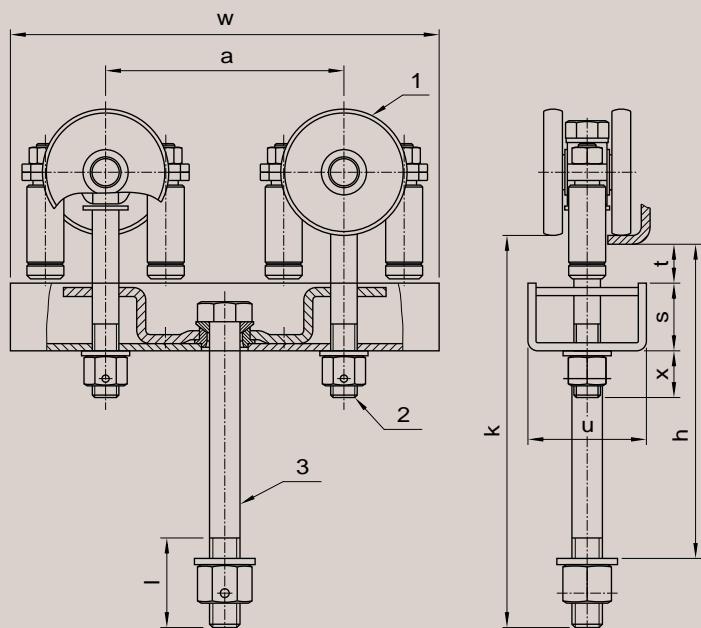
4-Wheeled Trolley
With Bolt



2*4.040

| | F*(kg) | w | a | u | t | x | h | l | s | 1 | 2 | 3 |
|--------------|--------|-----|-----|----|----|----|-----|----|----|-----------|-------------|-------------|
| Steel wheels | | | | | | | | | | Wheelset | Bolt DIN931 | Bolt DIN931 |
| 234.040 | 250 | 220 | 120 | 58 | 37 | 26 | 206 | 44 | 33 | 234.010/1 | M12 x 140 | M16 x 150 |
| 244.040 | 500 | 220 | 120 | 58 | 37 | 27 | 206 | 44 | 33 | 244.010/1 | M12 x 150 | M16 x 150 |
| 254.040 | 1000 | 250 | 140 | 60 | 43 | 25 | 211 | 52 | 35 | 254.010/1 | M16 x 170 | M20 x 150 |

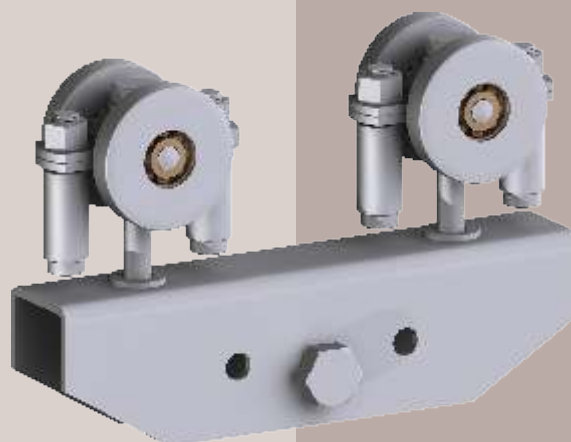
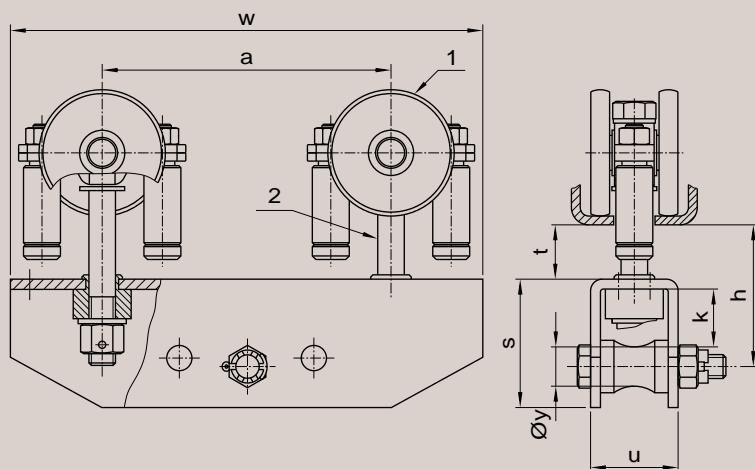
4-Wheeled Trolley With Bolt With Longer Nut And Clamping Pin



2*4.040/001

| | F*(kg) | w | a | u | t | x | h | k | l | s | 1 | 2 | 3 |
|--------------|--------|-----|-----|----|----|----|-----|-----|----|----|-----------|-------------|-------------|
| Steel wheels | | | | | | | | | | | Wheelset | Bolt DIN931 | Bolt DIN931 |
| 234.040/001 | 250 | 220 | 120 | 58 | 37 | 26 | 171 | 209 | 44 | 33 | 234.010/1 | M12 x 140 | M16 x 150 |
| 244.040/001 | 500 | 220 | 120 | 58 | 37 | 27 | 176 | 210 | 44 | 33 | 244.010/1 | M12 x 150 | M16 x 150 |
| 254.040/001 | 1000 | 250 | 140 | 60 | 43 | 25 | 173 | 216 | 52 | 35 | 254.010/1 | M16 x 170 | M20 x 150 |

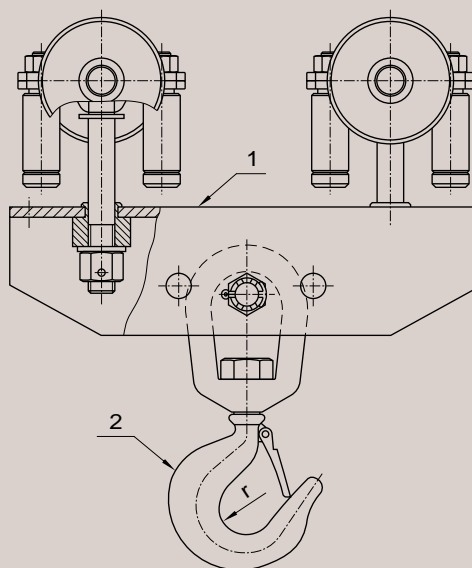
4-Wheeled Trolley With Axle For Hoist



2*4.050

| | F*(kg) | w | a | h | k | u | s | t | Ød | 1 | 2 |
|--------------|--------|-----|-----|------|------|----|----|------|----|-----------|-------------|
| Steel wheels | | | | | | | | | | Wheelset | Bolt DIN931 |
| 234.050 | 250 | 245 | 150 | 66.5 | 29.5 | 46 | 66 | 22 | 20 | 234.010/1 | M12 x 110 |
| 244.050 | 500 | 245 | 150 | 75 | 29.5 | 46 | 66 | 31.5 | 20 | 244.010/1 | M12 x 130 |
| 254.050 | 1000 | 280 | 170 | 80 | 32 | 49 | 70 | 32 | 22 | 254.010/1 | M16 x 150 |

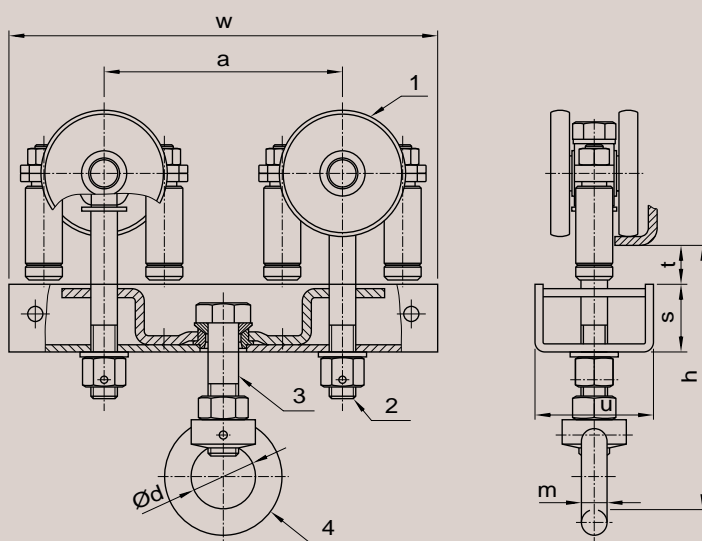
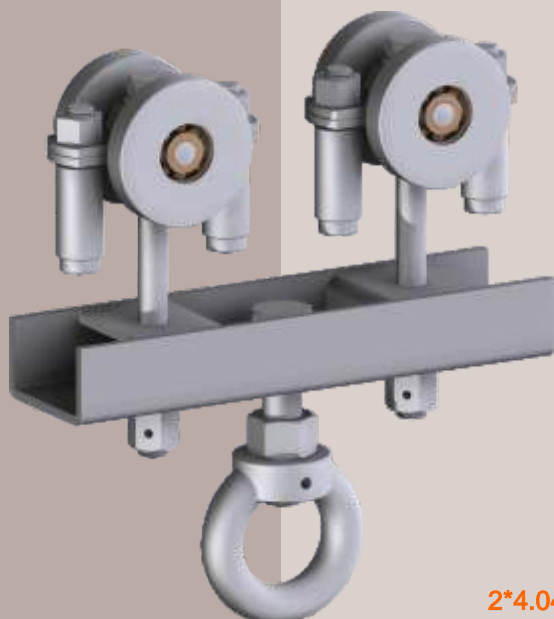
4-Wheeled Trolley With Swivel Hook And Safety Latch



2*4.050/006

| | F*(kg) | h | r | x | 1 | 2 |
|--------------|--------|-----|----|----|------------------------|-----------------|
| Steel wheels | | | | | 2*4.050 | Swivel hook |
| 234.050/006 | 250 | 191 | 14 | 23 | Dimensions see 234.050 | 254.050.006.000 |
| 244.050/006 | 500 | 200 | 14 | 23 | Dimensions see 244.050 | 254.050.006.000 |
| 254.050/006 | 1000 | 204 | 14 | 23 | Dimensions see 254.050 | 254.050.006.000 |

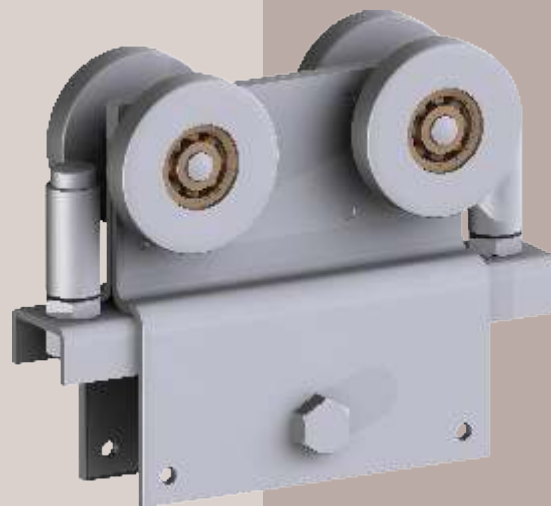
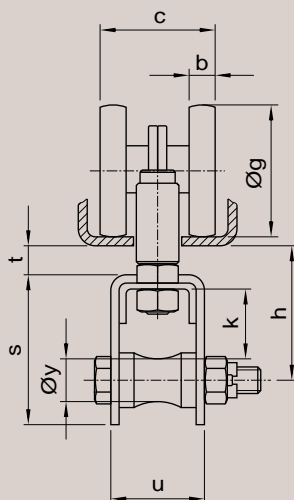
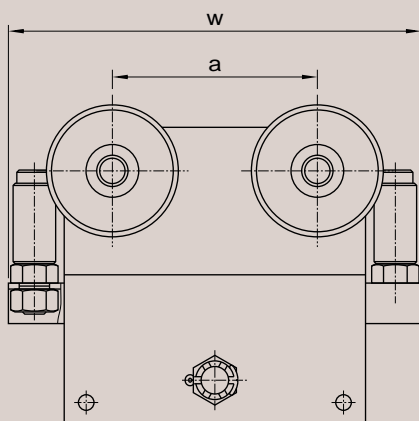
4-Wheeled Trolley With Eye Nut



2*4.040/003

| | F*(kg) | w | a | u | t | s | h | Ød | m | 1 | 2 | 3 | 4 |
|--------------|--------|-----|-----|----|----|----|-----|----|-----|-----------|-------------|-------------|---------|
| Steel wheels | | | | | | | | | | Wheelset | Bolt DIN931 | Bolt DIN931 | Eye nut |
| 234.040/003 | 250 | 220 | 120 | 58 | 37 | 33 | 155 | 35 | Ø14 | 234.010/1 | M12 x 140 | M16 x 70 | M12 |
| 244.040/003 | 500 | 220 | 120 | 58 | 37 | 33 | 155 | 35 | Ø14 | 244.010/1 | M12 x 150 | M16 x 70 | M12 |
| 254.040/003 | 1000 | 250 | 140 | 60 | 43 | 35 | 174 | 40 | Ø16 | 254.010/1 | M16 x 170 | M20 x 80 | M16 |

4-Wheeled Trolley With Axle For Hoist - Straight Sliding

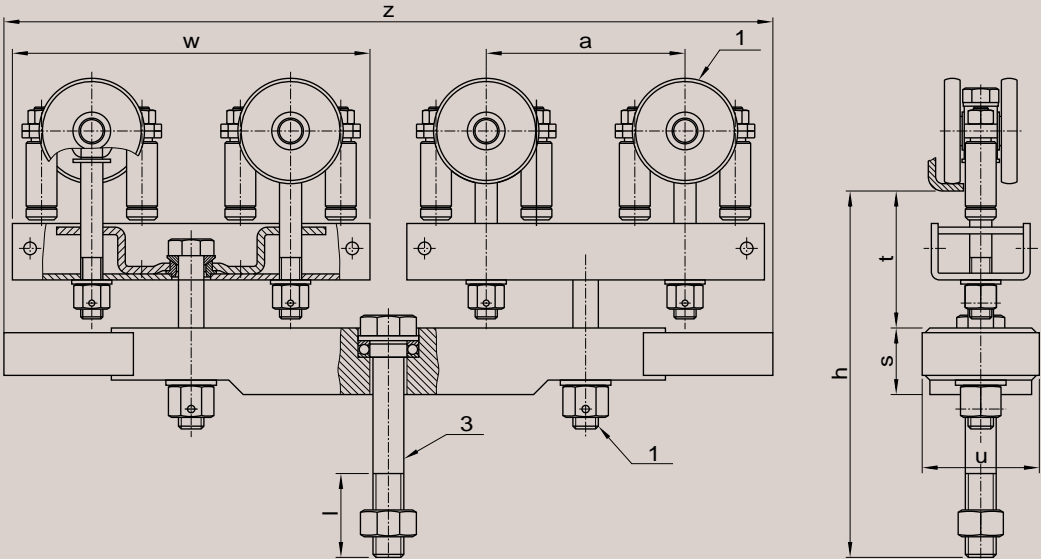


2*4.550

| | F*(kg) | w | a | b | c | Øg | h | k | u | s | t | Øy |
|--------------|--------|-----|-----|-----|------|------|------|------|----|----|------|----|
| Steel wheels | | | | | | | | | | | | |
| 234.550 | 250 | 194 | 96 | 9.5 | 44 | 54.5 | 67.5 | 32 | 44 | 70 | 18.5 | 22 |
| 244.550 | 500 | 194 | 96 | 12 | 53.5 | 61.5 | 63 | 32 | 44 | 70 | 14 | 20 |
| 254.550 | 1000 | 214 | 108 | 12 | 54.5 | 79.2 | 67 | 33.5 | 49 | 76 | 13.5 | 20 |

| Standard execution (100° C) | Trolleys-high temperature | | Description |
|-----------------------------|---------------------------|------------------|--|
| | Execution 150° C | Execution 300° C | |
| 234.010 | 233.510 | 233.010 | 2-wheeled trolley with bolt M12 |
| 234.010/001 | 233.510/001 | 233.010/001 | 2-wheeled trolley with bolt M12 + higher nut |
| 234.040 | 233.540 | 233.040 | 4-wheeled trolley |
| 234.040/001 | 233.540/001 | 233.040/001 | 4-wheeled trolley + higher nut |
| 244.010 | 243.510 | 243.010 | 2-wheeled trolley with bolt M12 |
| 244.010/001 | 243.510/001 | 243.010/001 | 2-wheeled trolley with bolt M12 +higher nut |
| 244.040 | 243.540 | 243.040 | 4-wheeled trolley |
| 244.040/001 | 243.540/001 | 243.040/001 | 4-wheeled trolley +higher nut |
| 254.010 | 253.510 | 253.010 | 2-wheeled trolley with bolt M16 |
| 254.010/001 | 253.510/001 | 253.010/001 | 2-wheeled trolley with bolt M16 + higher nut |
| 254.040 | 253.540 | 253.040 | 4-wheeled trolley |
| 254.040/001 | 253.540/001 | 253.040/001 | 4-wheeled trolley + higher nut |

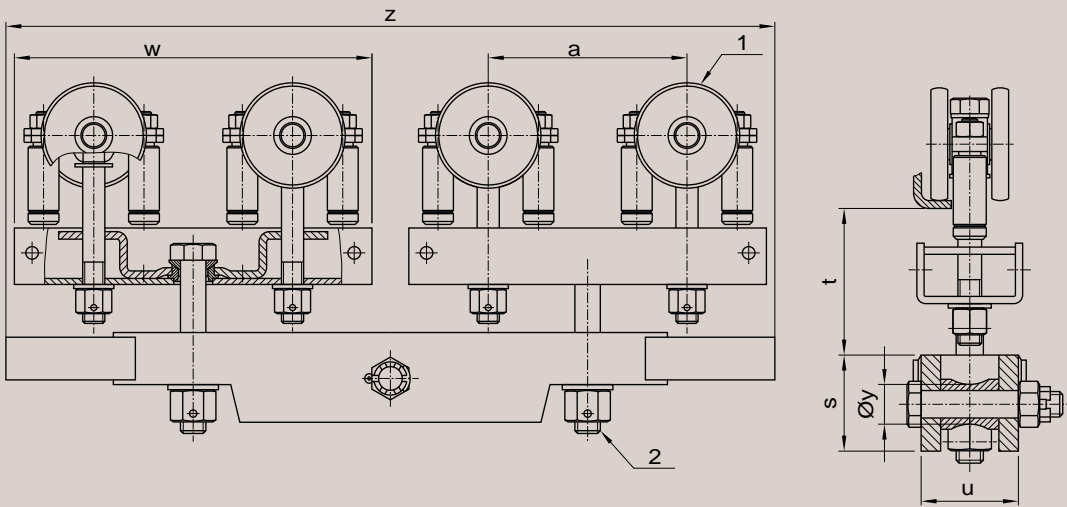
8-Wheeled Trolley
With Bolt



N.B.: id. for
8-wheeled trolley
with higher nut

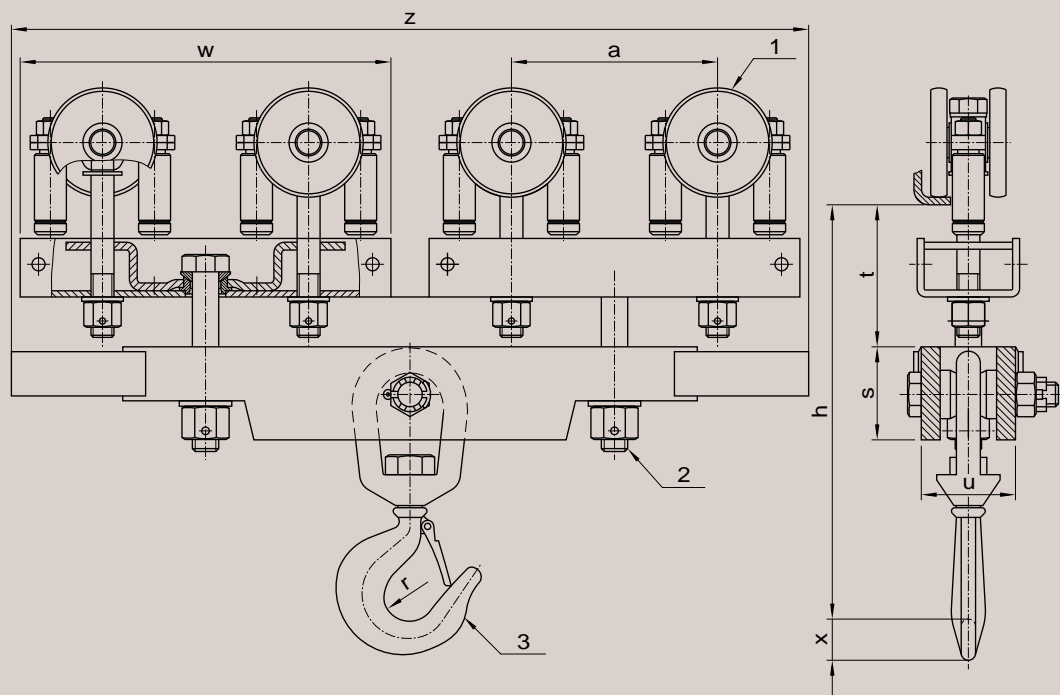
| | F*(kg) | w | a | z | u | h | l | s | t | 1 | 2 | 3 |
|-------------------------|--------|-----|-----|-----|----|-----|----|----|-----|-----------------------|--------------------------|--------------------------|
| Steel wheels 254.070 | 1800 | 250 | 140 | 530 | 80 | 530 | 56 | 45 | 100 | Wheelset 254.010/1 | Bolt DIN931 M20 x 120 | Bolt DIN931 M22 x 150 |

8-Wheeled Trolley
For Hoist



| | F*(kg) | w | a | z | u | s | t | Øy | 1 | 2 |
|-------------------------|--------|-----|-----|-----|----|----|-----|----|-----------------------|--------------------------|
| Steel wheels 254.070 | 1800 | 250 | 140 | 530 | 63 | 60 | 100 | 25 | Wheelset 254.010/1 | Bolt DIN931 M20 x 120 |

8-Wheeled Trolley With Swivel Hook And Safety Latch



N.B.: id. for
8-wheeled trolley
with higher nut

| | F*(kg) | w | a | z | u | h | r | s | t | x | 1 | 2 | 3 |
|--------------|--------|-----|-----|-----|----|-----|----|----|-----|----|-----------|-------------|-----------------|
| Steel wheels | | | | | | | | | | | Wheelset | Bolt DIN931 | Hook |
| 254.090/006 | 1800 | 250 | 140 | 530 | 63 | 277 | 17 | 60 | 100 | 30 | 254.010/1 | M20 x 120 | 254.090.006.000 |



With a lift-lower device often called a dropsection, goods can be lifted or lowered to a man's working height; this allows the track to be installed at a higher level.

In the loading and unloading area goods can be easily handled.

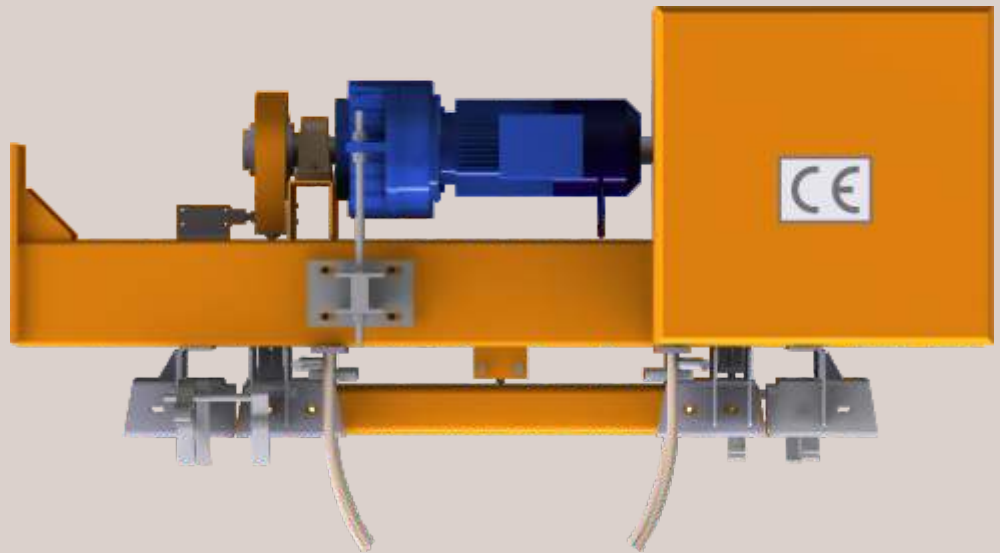
A lift-lower device can be incorporated in either new or existing installations.

Lift-lower devices are also used to immerse loads.

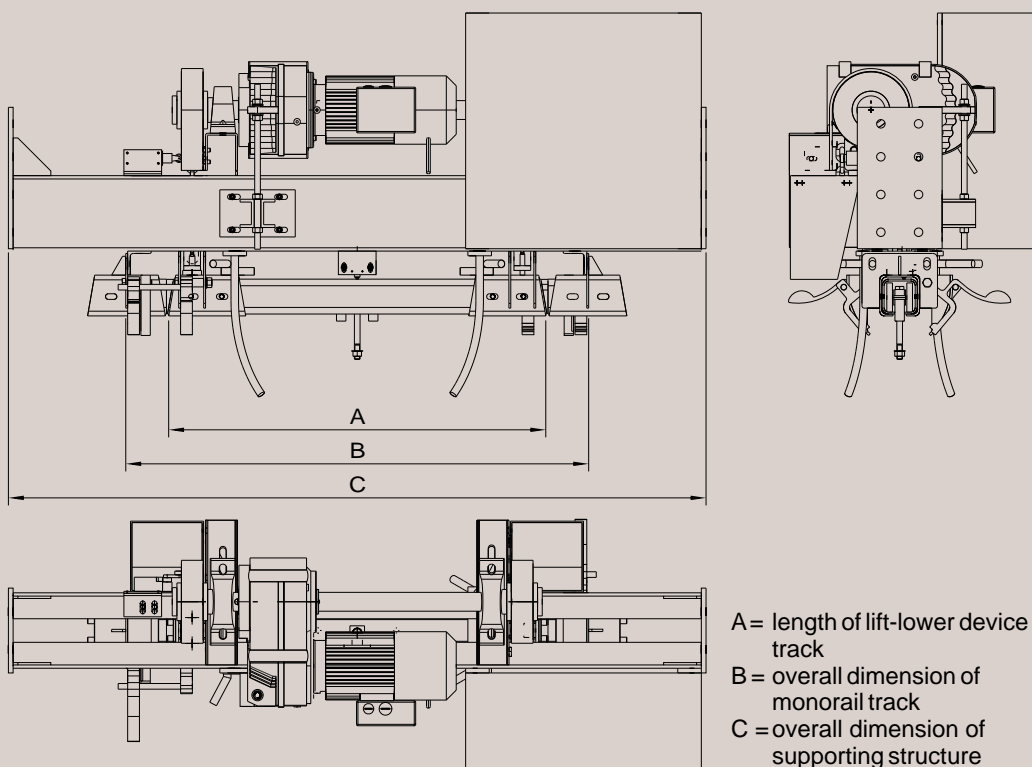
The problem of different levels in a circuit can be solved: for special applications lift-lower devices with a vertical guide system can be installed.

The lift-lower devices are standardized for lifting capacities of 250 kg and 500 kg. On request options for 1000 kg are available.

A lift-lower device is manufactured such that the lifting device is mounted on to the supporting structure. This supporting structure is integrated in the steelwork of the monorail circuit. Installation is by bolted flange plates directly to the support structure.



Lift-Lower Devices



| Load | Series | OVERALL DIMENSIONS | | |
|--------|---------|-----------------------------------|--------|--------|
| | | A | B | C |
| 250 kg | 230.000 | 1000-1500-2000-... per 500mm | A+ 165 | A+ 500 |
| | 240.000 | 1000-1500-2000-... per 500mm | A+ 172 | A+ 500 |
| | 250.000 | 1000-1500-2000-... per 500mm | A+ 192 | A+ 500 |
| | 2*0.000 | 750 | 942 | 1500 |
| 500 kg | 240.000 | 1000-1500-2000-2500-... per 500mm | A+ 194 | A+ 500 |
| | 250.000 | 1000-1500-2000-2500-... per 500mm | A+ 194 | A+ 500 |

Options:

- Pneumatic locking devices with control switch (pneumatic locking devices are necessary when several trolleys are positioned at the same time in the lift-lower device track)
- Connecting voltage: 400VAC 3p+N+PE, 0.75kW
- Spring-controlled positioning switch
- Alternative lifting speed (up to 10 m/min)
- Lifting height > 3,5 m
- Adjustable speed
- Detection of the trolley or the crossbeam in the lift-lower track; in this case the trolley or crossbeam is provided with a detection plate.
- EX- execution: Exd. engine, explosion-proof control device, electric box with intrinsically safe electrics (In this case the electric box should be placed outside the Ex-zone).
- Positioning device to stop the trolley in the center of the lift-lower device track.

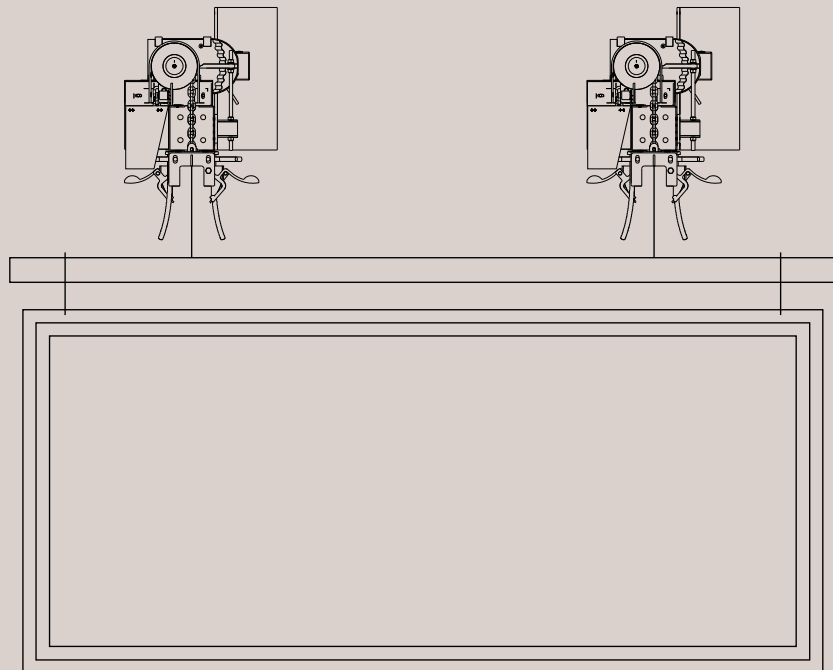
Lift-lower devices of 1000 kg are only manufactured on request according to the specific demands of the customer.

Coupled Lift-Lower Devices

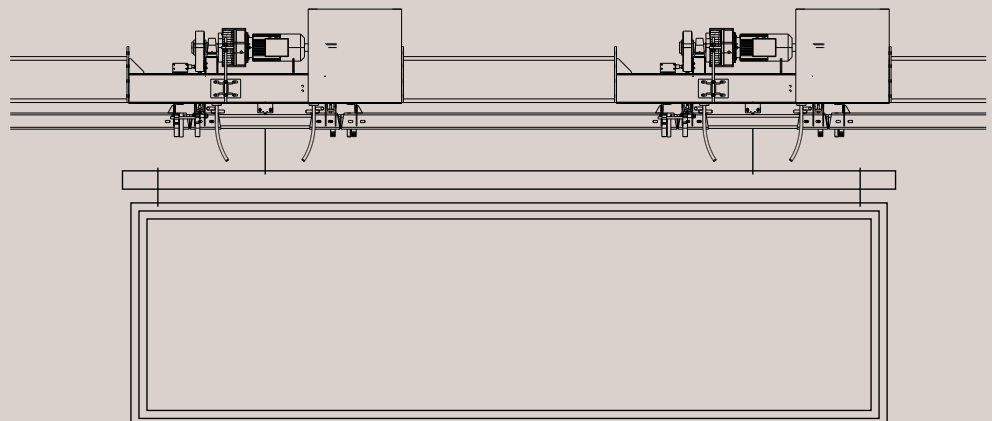
Two lift-lower devices can be coupled electrically so that both devices are controlled from one single control box and operated with one single manual pendant control.

Sideways Lift-Lower Devices

A cross lift-lower device is composed of two standard lift-lower device mounted in parallel



2 Lift-Lower Devices In Sequence

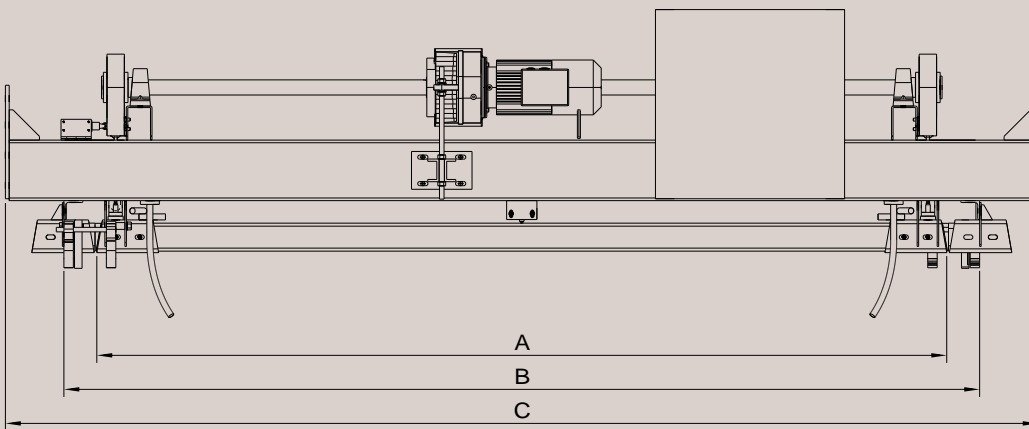


Extended Lift-Lower Devices

These extended lift-lower devices are used in a circuit where a long flightbar is used. In this case the flightbars are provided with a detection plate so that the lift-lower device only can be operated if the flightbar is correctly positioned in the track of the lift-lower device.

Zone detection on both sides of the lift-lower device also can be provided, in order to avoid collision of the flightbars while operating the lift-lower device.

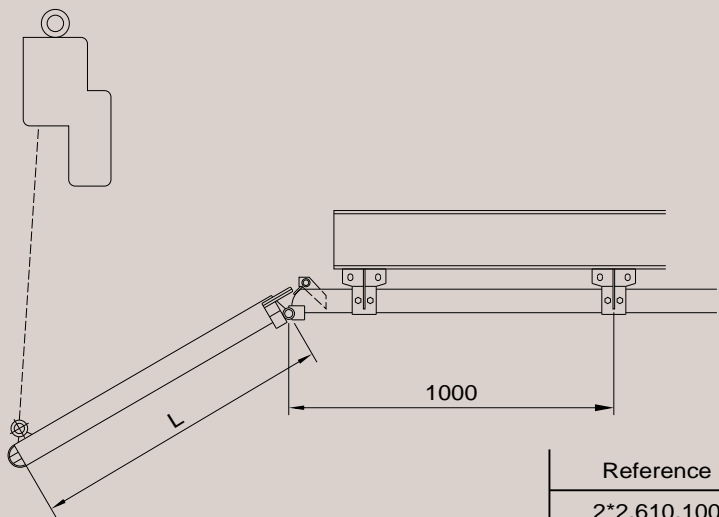
Please contact our engineering department.



A = length of lift-lower device track
B = overall dimension of monorail track
C = overall dimension of supporting structure



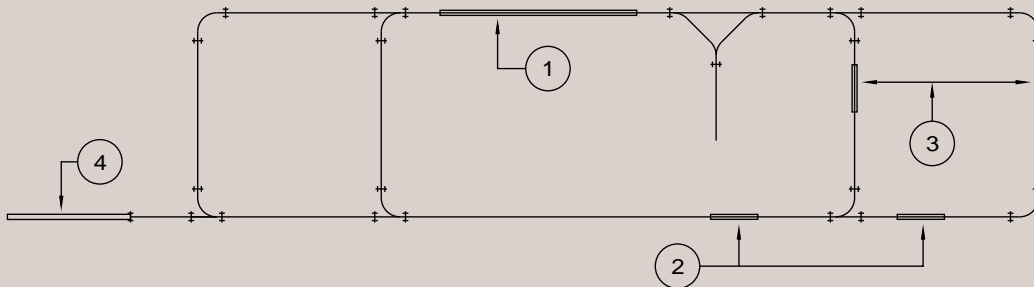
An end lift-lower device consists of a track of 1 meter and a hinged track of length "L" = (see table).
With a hoist or a compressed air cylinder the hinged track can be lifted. A safety device automatically locks the track.
The length "L" has to be communicated when ordering.



| Reference | L |
|-------------|------|
| 2*2.610.100 | 950 |
| 2*2.610.150 | 1450 |
| 2*2.610.200 | 1950 |
| 2*2.610.250 | 2450 |
| 2*2.610.300 | 2950 |
| 2*2.610.350 | 3450 |
| 2*2.610.400 | 3950 |



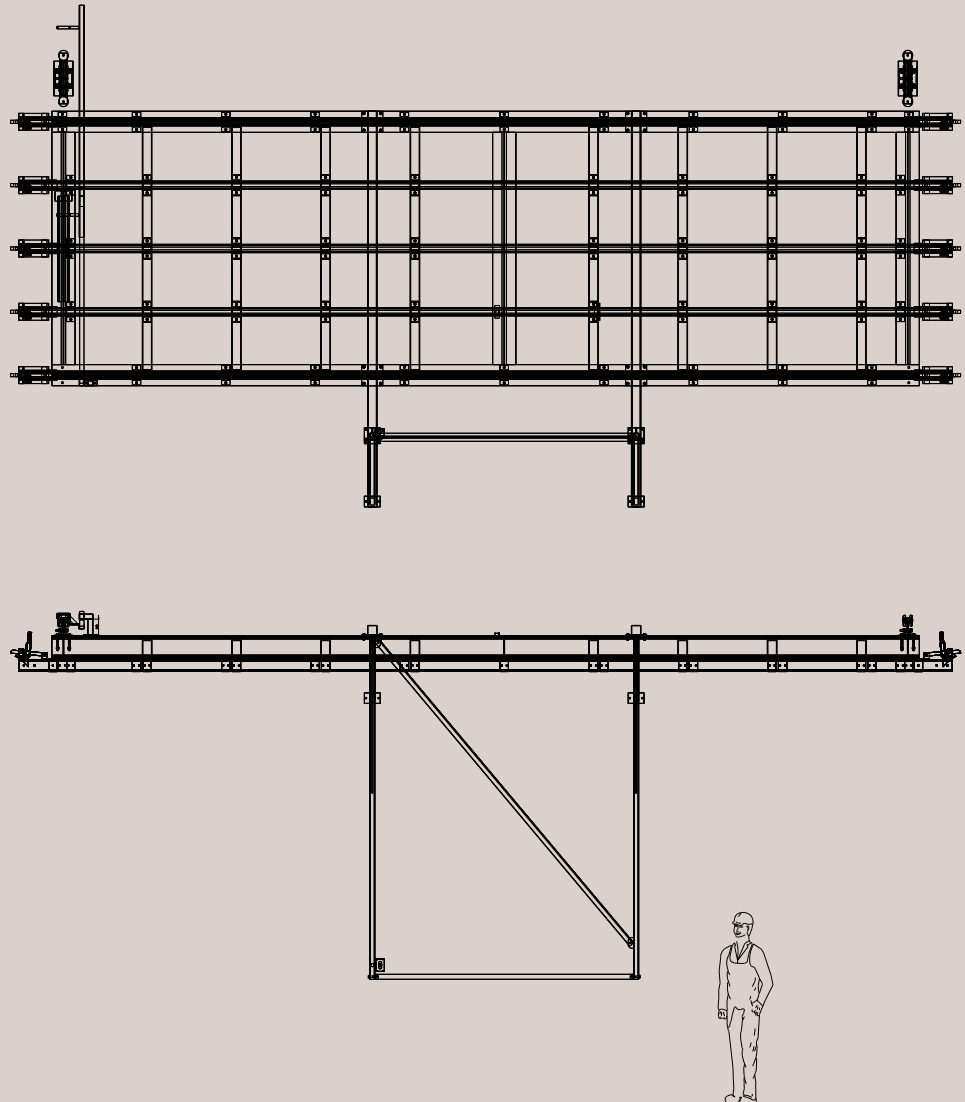
Positioning Lift-Lower Devices In a Circuit



- 1. standard lift-lower device
- 2. coupled lift-lower devices in sequence
- 3. cross lift-lower device
- 4. end lift-lower device

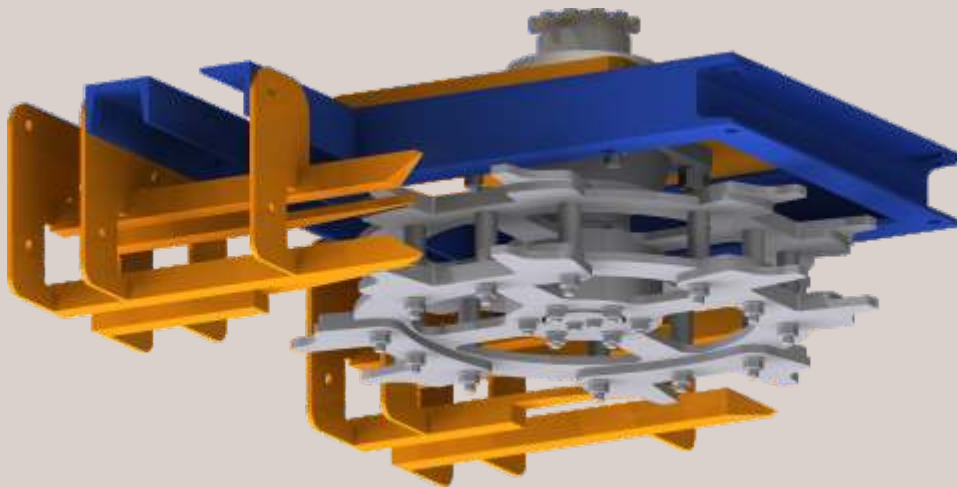


In a monorail circuit a bridge crane can be mounted in order to allow the trolleys to run in parallel mounted tracks: e.g. in baking ovens or sorting areas. The bridge crane can be coupled mechanically or pneumatically.



Railtechniek have developed several systems which can be applied according to the specific need like a simple powered conveying chain or a walking beam to provide automatic feed or automatic buffering.

Our sales department can inform you about the many different standard solutions developed by Railtechniek for numerous applications.



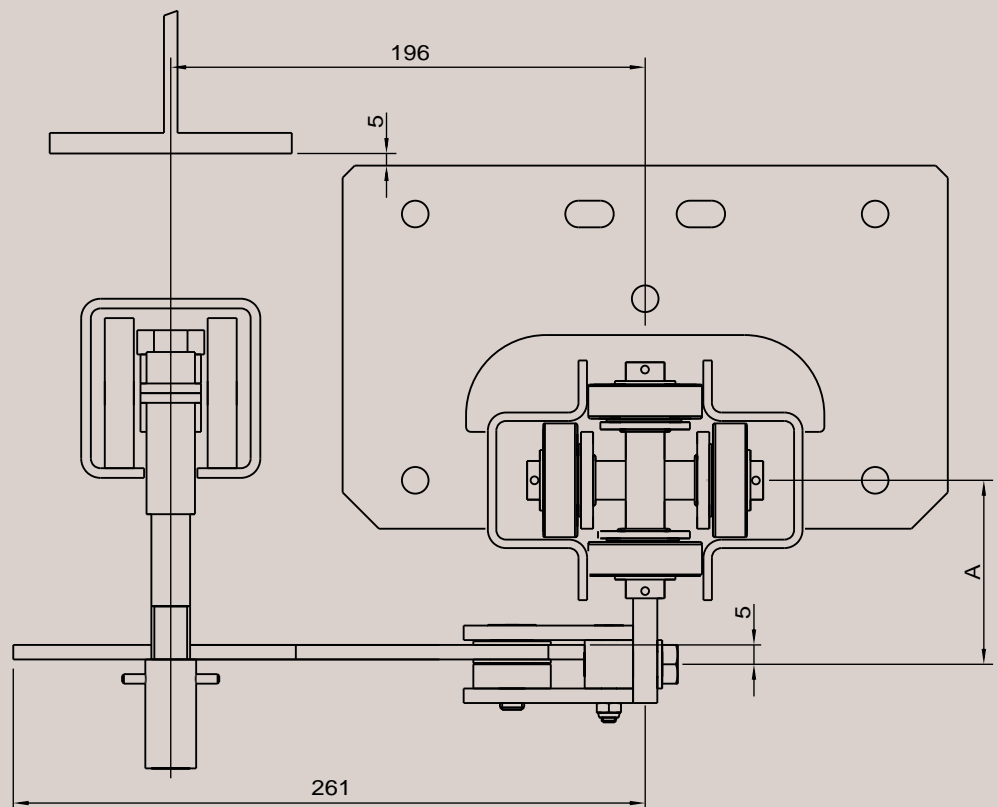
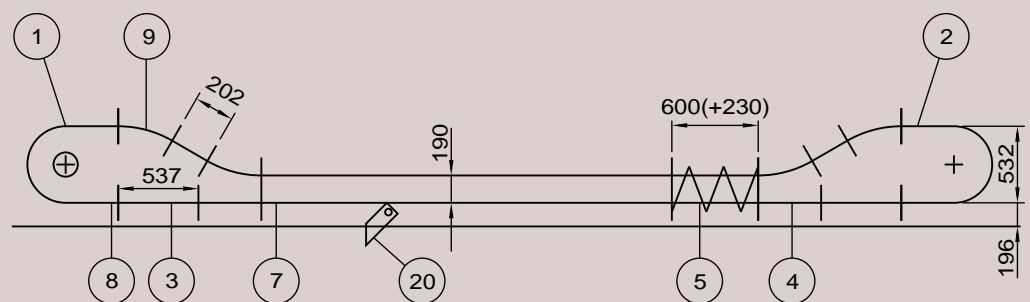
For automatization of manual monorail systems there are various options available.

Transportation is done by use of a transfer, a chain with pusher dog running next to the monorail and pushing a loadbar.

This is a cost efficient way for transportation through a spraybouth for example or the return line of empty carriers while keeping the rest of the system manual and not lose flexibility.

Railtechnik standard Teleflex D8 transfers which can be used in near endless situations applies due to its modular components.

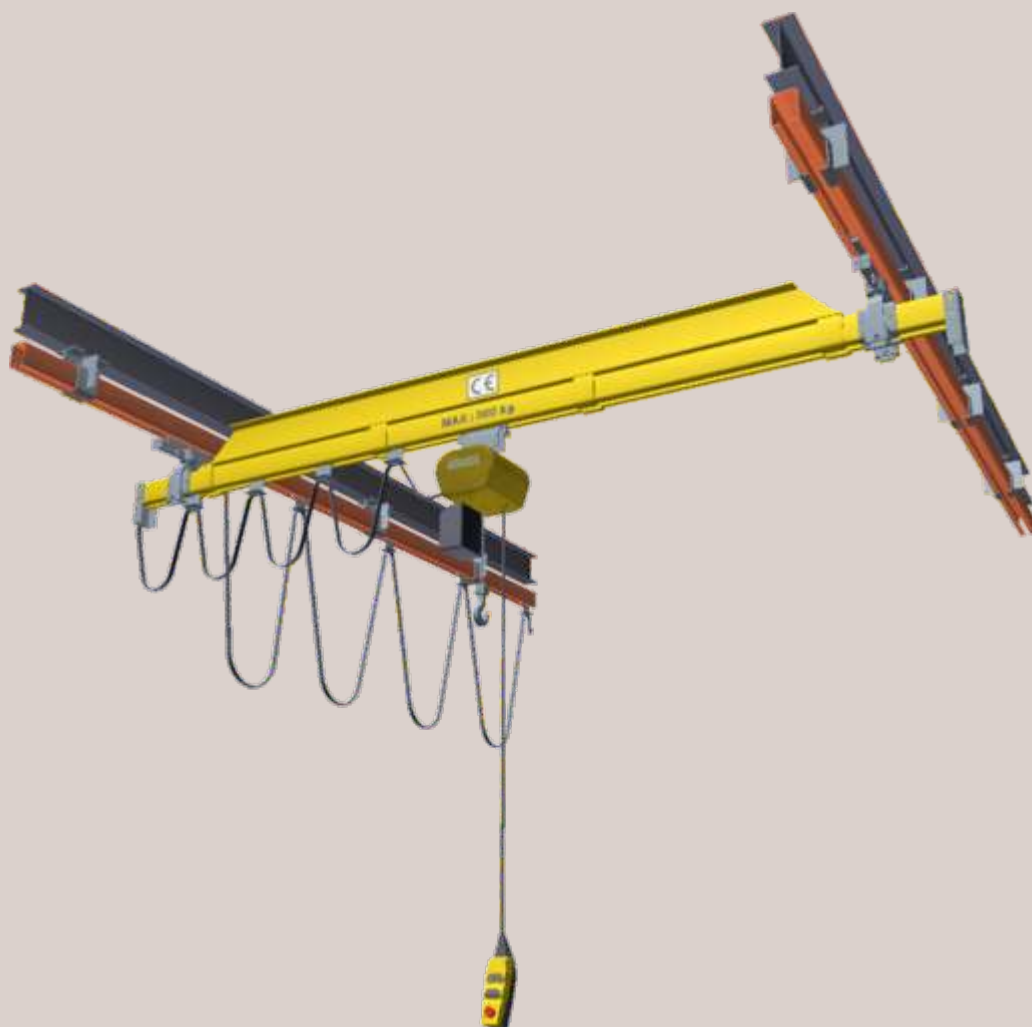
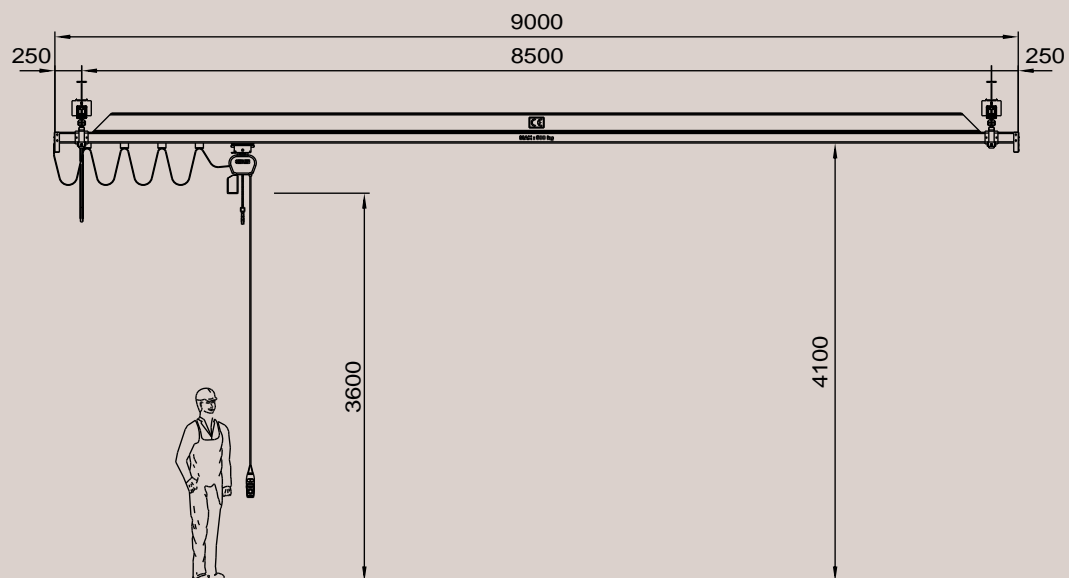
Basic transfer example:



| | Description | Code | Symbol | Remark |
|----|---------------------------|----------|--------|--|
| 1 | Drive wheel 8T | 802.400 | | Type 1 = 0.25-1.9 m/min Type 2 = 1.9-14.9 m/min Type 3 = 0.8-6 m/min |
| 2 | Turnwheel 8T | 802.405 | | |
| 3 | In/out for 8T wheel right | 802.437R | | |
| 4 | In/out for 8T wheel left | 802.437L | | |
| 5 | Double tension rail | 803.208 | | |
| 6 | Tension rail | 803.209 | | |
| 7 | Straight double track | 803.008 | | |
| 8 | Straight track | 803.000 | | |
| 9 | Bend 30° R750 | 803.014 | | |
| 10 | Bend 45° R750 | 803.013 | | |
| 11 | Bend 90° R750 | 803.011 | | |
| 12 | Worm drive double track | 803.007 | | ask our engineering for motor specifications |
| 13 | Worm drive single track | 803.035 | | ask our engineering for motor specifications |
| 14 | Chain, till 80°C | 800.302 | | ZZ bearings |
| 15 | Chain, till 110°C | 800.303 | | 2RS bearings |
| 16 | Chain, till 280°C | 800.300 | | C3 bearings (open) |
| 17 | Lubrificator single track | RT-24711 | | |
| 18 | Lubrificator double track | RT-32477 | | |
| 19 | Pusher dog left | RT-19307 | | Height A to be determined |
| 20 | Pusher dog right | RT-19475 | | Height A to be determined |

Remark concerning the chain: pitch = 203.2 mm
Pusher dog can be mounted every 406.4 mm

Railtechnik manufactures a large range of bridge cranes.
Please ask for the separate catalogue.



Railtechnik manufactures a large range of tracks with adaptor brackets and clamps for cable guidance.

Cable guidance applies for flat as well as for tubular flexible cable. Compressed air lines are hung on specially adapted trolleys.

Please ask for the separate catalogue.



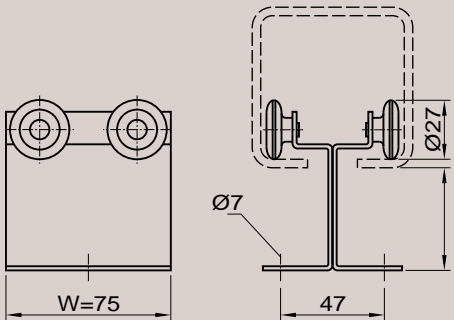
Cable Guidance
Trolleys

Electric cable

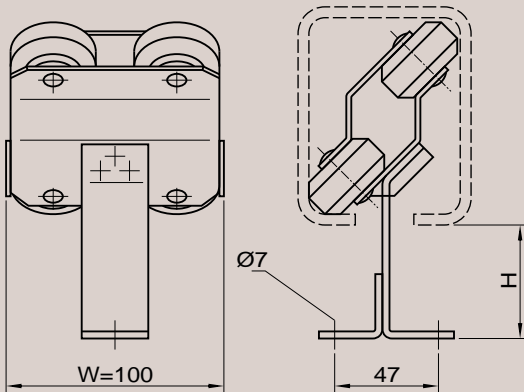
- Cable guidance trolley no 235.245 for track no 230.000
- The cable guidance trolley no 245.245 can be used in tracks no 240.000 as well as in tracks no 250.000



| Track | Trolley No | L |
|---------|------------|----|
| 230.000 | 235.245 | 52 |
| 230.000 | 235.245 | 52 |
| 230.000 | 235.245 | 52 |

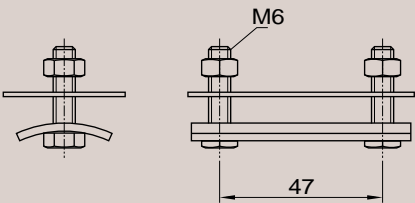
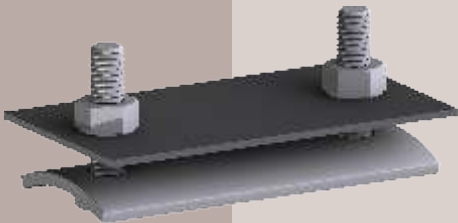


| Track | Trolley No | L |
|---------|------------|----|
| 230.000 | 235.250 | 52 |
| 230.000 | 235.255 | 52 |
| 230.000 | 235.255 | 52 |



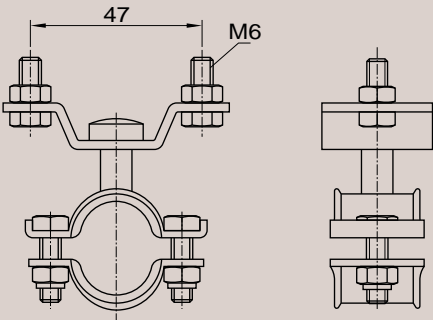
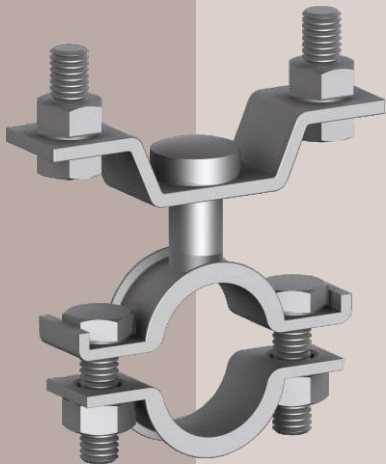
Cable Clamps

Electric flat cable: clamp no 417.220
max. cable width 40 mm



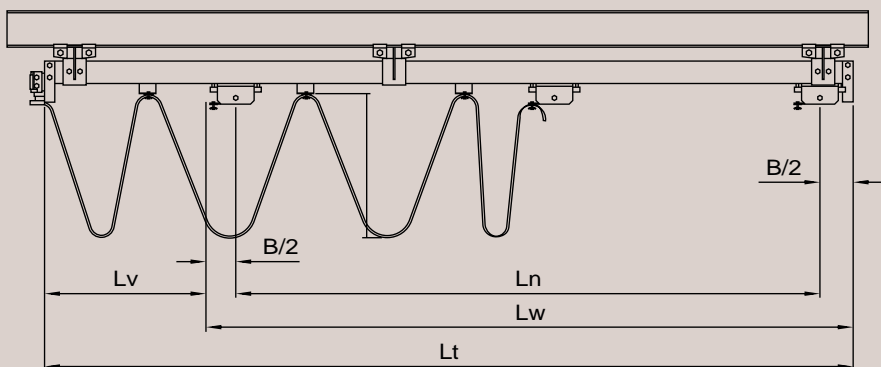
Compressed air line

- Hose diameter minimum 10 mm maximum 18 mm Clamp no. 417.110
- Hose diameter minimum 20 mm maximum 25 mm Clamp no. 417.120



Calculation

The following table helps to determine the number of the cable guidance trolleys (n) and the length of the feed cable or the compressed air hose (LK)
 - For an effective runway of a trolley (L_n) < 30 m, the values of n and LK are detailed.



| Track length L_n | Cable length LK | Number of cable guidance trolley (n) for a loop height A (m) | | | |
|-----------------------|----------------------|---|------|-----|-----|
| | | 0.5 | 0.63 | 0.8 | 1.0 |
| 5 | 7.5 | 5 | 4 | 3 | 2 |
| 6 | 8.6 | 6 | 5 | 4 | 3 |
| 7 | 9.7 | 7 | 6 | 4 | 3 |
| 8 | 10.8 | 8 | 6 | 5 | 4 |
| 9 | 11.9 | 9 | 7 | 6 | 4 |
| 10 | 13.0 | 10 | 8 | 6 | 5 |
| 11 | 14.1 | 12 | 9 | 7 | 6 |
| 12 | 15.2 | 13 | 10 | 8 | 6 |
| 13 | 16.3 | 14 | 11 | 8 | 7 |
| 14 | 17.4 | 15 | 12 | 9 | 7 |
| 15 | 18.5 | 16 | 13 | 10 | 8 |
| 16 | 19.6 | 17 | 13 | 10 | 8 |
| 17 | 20.7 | 18 | 14 | 11 | 9 |
| 18 | 21.8 | 19 | 15 | 12 | 9 |
| 19 | 22.9 | 20 | 16 | 13 | 10 |
| 20 | 24.0 | 21 | 17 | 13 | 10 |
| 21 | 25.1 | 23 | 18 | 14 | 11 |
| 22 | 26.2 | 24 | 19 | 15 | 12 |
| 23 | 27.3 | 25 | 20 | 15 | 12 |
| 24 | 28.4 | 26 | 20 | 16 | 13 |
| 25 | 29.5 | 27 | 21 | 17 | 13 |
| 26 | 30.6 | 28 | 22 | 17 | 14 |
| 27 | 31.7 | 29 | 23 | 18 | 14 |
| 28 | 32.8 | 30 | 24 | 19 | 15 |
| 29 | 33.9 | 31 | 25 | 19 | 15 |
| | 35.0 | 32 | 26 | 20 | 16 |

-For an effective runway of the trolley (L_n) > 30 m the values of n and LK are calculated as follows:

$$-n = \frac{L_n \times C}{2 \times A} - 1$$

n = number of cable guidance trolleys A: Loop height C: Coefficient

| Height of the loop (m): A | 0.5 | 0.63 | 0.8 | 1.0 |
|---------------------------|-----|------|-------|------|
| Coefficient C | 1.1 | 1.08 | 1.065 | 1.05 |

$$LK = LT \times 1.1 + 2 \text{ m}$$

$$LT = Lw + Lv$$

$$Lw = Ln + B$$

$$Lv = n \times w$$

LK : Cable length

LT : Total length of the track

Lw : Length of the runway

B : Width of the trolley

Lv : Required space for the cable guidance trolleys

w : Width of the cable guidance trolley

RAILTECHNIEK VAN HERWIJNEN B.V.



THE NETHERLANDS

TELEFLEX B.V.



THE NETHERLANDS

RAILTECHNIQUE FRANCE SARL



FRANCE

TFX-RAILTECHNIK GmbH



GERMANY

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ENGLAND

RAILTECHNIQUE SRL MOLDOVA



MOLDOVA



RAILTECHNIEK VAN HERWIJNEN BV

SPECIALISTS IN OVERHEAD CONVEYORS





Head office



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Fabrication



Assembling



Electrical steering department



Service



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Internet: www.raitechniek.nl

Who is RAILTECHNIEK?

Railtechniek van Herwijnen BV is an independent global company, specializing since their foundation in 1983 in the production and installation of Overhead Conveyors components and systems. The company designs, manufactures and installs only under international approved standards.

For ancillary equipment such as electric switches, pneumatic, PLC's, bearings etc. we only use international suppliers who can meet with our standards. After the completion and sign off of the system by the customer a fully detailed manual inclusive of maintenance and operation instructions is supplied. After sales service & maintenance contracts are offered (subject to a separate contract). All PLC control systems use a modem connection with our 24-hour helpdesk. This is included as standard.

Our European subsidiaries:

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RAILTECHNIQUE FRANCE S.A.R.L
TFX-RAILTECHNIK GmbH
RAILTECHNIQUE S.R.L MOLDOVA
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