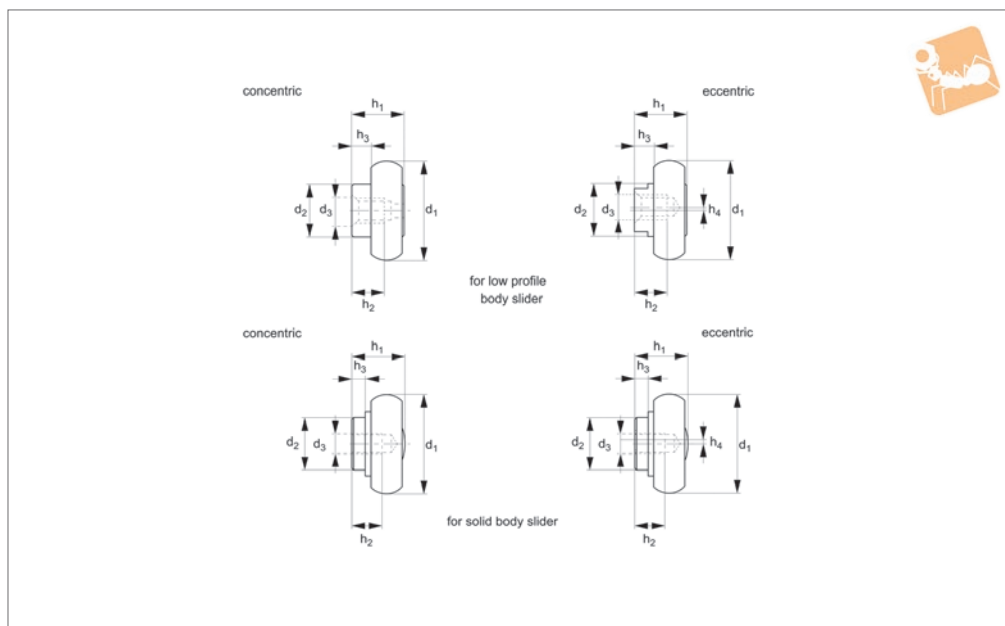




# Steel Replacement Rollers for T version steel X rail



Long Linear  
Rails



**L1970.CRT**

LONG LINEAR RAILS

## Material

Rollers with metal seals (2Z).

## Technical Notes

For use with X rail steel sliders in T type rail.

| Order No.           | For slider type | Type       | Body      | $h_1$ | $h_2$ | $h_3$ | $h_4$ | $d_1$ | $d_2$ | $d_3$ | $w_1$ | $w_2$ | $w_3$ | Weight<br>g |
|---------------------|-----------------|------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|
| <b>L1970.CRPN20</b> | L1970.20T-080   | Concentric | Low prof. | 8.2   | 6.0   | 4.0   | -     | 14.0  | 9     | M 4   | 8.5   | 6.0   | 4.0   | 5           |
| <b>L1970.CRPA20</b> | L1970.20T-080   | Eccentric  | Low prof. | 8.2   | 6.0   | 4.0   | 0.5   | 14.0  | 9     | M 4   | 8.5   | 6.0   | 4.0   | 5           |
| <b>L1970.CRPN30</b> | L1970.30T-088   | Concentric | Low prof. | 12.0  | 8.0   | 4.5   | -     | 22.8  | 12    | M 5   | 12.0  | 7.0   | 4.5   | 20          |
| <b>L1970.CRPA30</b> | L1970.30T-088   | Eccentric  | Low prof. | 12.0  | 8.0   | 4.5   | 0.6   | 22.8  | 12    | M 5   | 12.0  | 7.0   | 4.5   | 20          |
| <b>L1970.CRPN45</b> | L1970.45T-150   | Concentric | Low prof. | 17.3  | 11.5  | 6.0   | -     | 35.6  | 17    | M 6   | 18.0  | 12.0  | 6.0   | 68          |
| <b>L1970.CRPA45</b> | L1970.45T-150   | Eccentric  | Low prof. | 17.3  | 11.5  | 6.0   | 0.8   | 35.6  | 17    | M 6   | 18.0  | 12.0  | 6.0   | 68          |
| <b>L1970.CRN20</b>  | L1970.20T-060   | Concentric | Solid     | 8.7   | 6.7   | 6.0   | -     | 14.0  | 6     | M 4   | 8.7   | 6.0   | 1.8   | 5           |
| <b>L1970.CRA20</b>  | L1970.20T-060   | Eccentric  | Solid     | 8.7   | 6.7   | 6.0   | 0.5   | 14.0  | 6     | M 4   | 8.7   | 6.0   | 1.8   | 5           |
| <b>L1970.CRN30</b>  | L1970.30T-080   | Concentric | Solid     | 13.8  | 10.3  | 9.0   | -     | 22.8  | 10    | M 5   | 14.0  | 9.0   | 3.8   | 20          |
| <b>L1970.CRA30</b>  | L1970.30T-080   | Eccentric  | Solid     | 13.8  | 10.3  | 9.0   | 0.6   | 22.8  | 10    | M 5   | 14.0  | 9.0   | 3.8   | 20          |
| <b>L1970.CRN45</b>  | L1970.45T-120   | Concentric | Solid     | 20.5  | 15.0  | 14.5  | -     | 35.6  | 12    | M 6   | 20.5  | 14.5  | 4.5   | 68          |
| <b>L1970.CRA45</b>  | L1970.45T-120   | Eccentric  | Solid     | 20.5  | 15.0  | 14.5  | 0.8   | 35.6  | 12    | M 6   | 20.5  | 14.5  | 4.5   | 68          |



The X rail system is a highly cost-effective product made of zinc plated steel (L1970), the stainless steel version (L1971) has a high level of corrosion resistance.

#### Cost-effective and corrosion resistant

The X rail is relatively inexpensive as it is based on a rolled formed, steel section. It allows for adjustments due to misalignment of the structure that it is being used on and with internal raceways is suited for robust use but is not suitable for applications having significant moment loads.

The stainless steel (316L) version uses FDA and USDA compliant materials.

#### Zinc-plated version

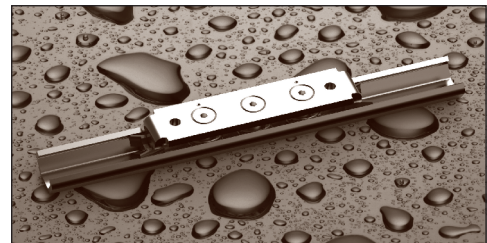
3 sizes to allow the most cost-effective solution for light and heavy duty applications.

#### Stocked

Same day despatch for lengths of up to 3 metres.

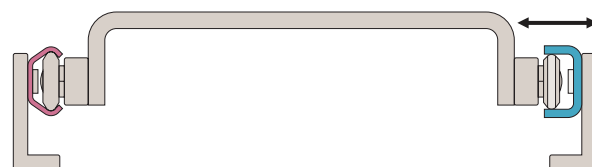
#### Stainless steel version

- High grade stainless (316L).
- For wet applications.
- 2RS (splash-proof) seals.



#### Flexibility in set-up

X rail allows the sliders one rail to remain fixed in place but allows some lateral movement of the sliders in the other rail to adapt to any misalignment.



T and U rail allows for misalignment

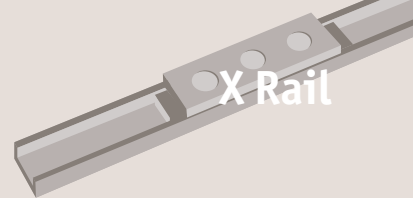


Using two T rails good set-up accuracy is required



## X Rails

### Specifications and applications



#### Specifications

- Maximum speed 1,5 m/s.
- Maximum acceleration 2 m/s<sup>2</sup>.
- Maximum rail length 3120 mm.
- Three rail sizes 20, 30 and 45.
- Temperature range steel -30°C to +120°C.
- Temperature range stainless -30°C to +100°C.
- Sliders have two fixed rollers and one eccentric roller for adjustment of preload.
- Two slider body types; solid slider version and low profile slider version (T rails only).
- Joining of rails together, if required please discuss with our Technical Department.
- Not suitable for large moment loads (in this case use two or more sliders/rails to reduce moment loads).
- For applications with high moment and/or higher precision loads please use our Compact Rail System.

#### Applications



##### Safety guarding

Extending protective systems  
sliding gates  
automatic pick & place



##### Sliding doors & windows

Internal sliding doors  
gates • roof lights  
display cases



##### Medical technology

X-ray equipment  
dental chairs  
bed extensions



##### Food, drink & pharmaceuticals

Food handling conveyors  
pharmaceutical factories  
stainless display equipment



##### Transport (naval)

Sliding hatches  
pull-out storage



##### Transport (rail)

Seat adjustment  
sliding doors  
battery removal units



##### Transport (automotive)

Ambulance sliding systems  
fire fighting vehicles  
sliding panels



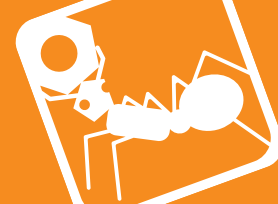
##### Transport (military)

Sliding seats  
protective hatches  
stretcher extensions



##### Water & waste

Sliding protective hatches  
wash down applications  
water tank doors



## L1970 Zinc-plated steel version



Zinc-Plated Steel

## Solid body slider

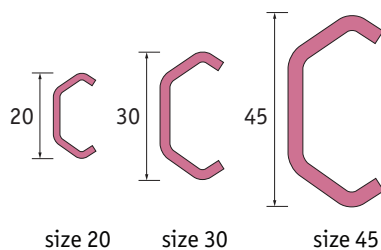
L1970.CEST/U  
(2Z dust proof seals)

## Low profile slider

L1970.CES  
(2Z dust proof seals)

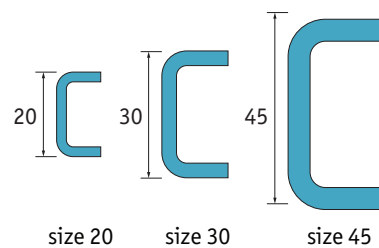
Zinc-Plated Steel

## T Rail (master)



L1970.TES

## U Rail (slave)



L1970.UES

## L1971 Stainless Steel version



Stainless Steel

## Solid body

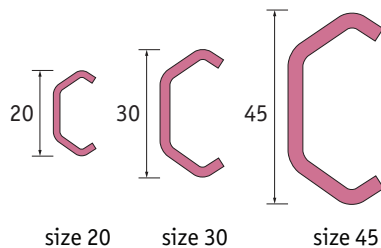
L1971.CEXT/U  
(2RS splash proof seals)

## Low profile slider

L1971.CEX  
(2RS splash proof seals)

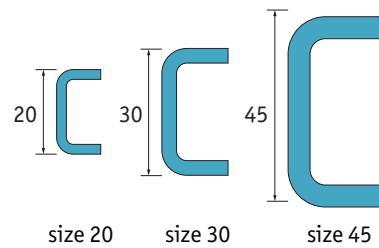
Stainless Steel

## T Rail (master)



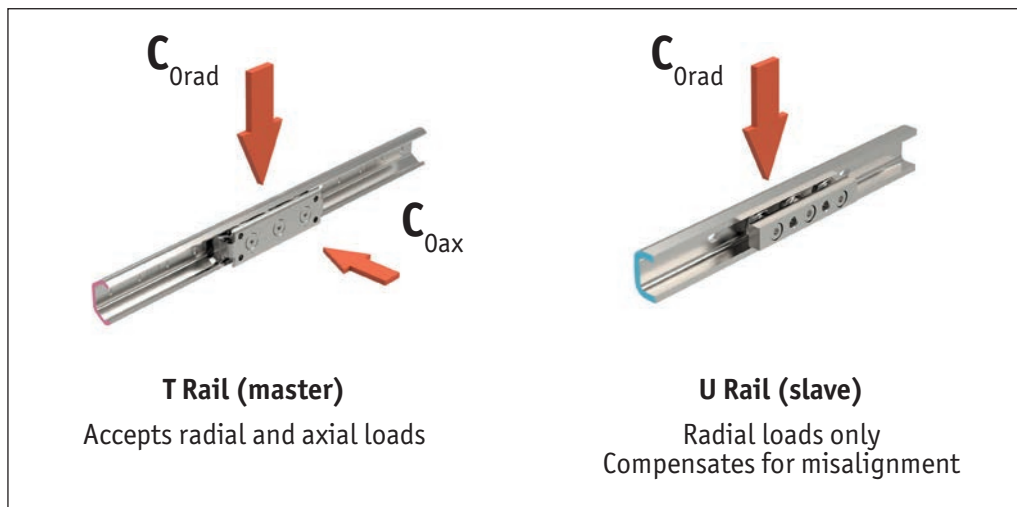
size 20 size 30 size 45

## U Rail (slave)



size 20 size 30 size 45

#### Two rail types



#### Selecting the correct rail

##### Firstly

The decision needs to be made if zinc plated steel or stainless steel rails and sliders are required.

- The zinc plated steel version (L1970) of the product is considerably less expensive than the 316L stainless steel type (L1971).
- The rollers in the zinc plated (L1970) sliders are protected by 2Z metal bearing covers. These are not meant to be used in anything other than a dry environment.
- The L1971 stainless steel X rail system is resistant to water and many chemicals. The slider rollers have rubber 2RS roller seals – being water resistant (not to be used fully submersed).

##### Secondly

The size of system to be used is selected.

- There are three different rail and slider sizes: 20, 30 and 45.
- The load that is being carried and its shape needs to be considered. The X rail system is not really suited for moment loads. If moment loads exist then two or more rails/sliders should be used to offset this. Typically 2, 4 or more sliders are used and the load carried should be divided over the number of sliders bearing in mind that if using a U rail slider along with a T rail, the U rail sliders do not have any axial load capacity.
- The rails are supplied in standard lengths of 1040mm, 2080mm and 3120mm – and can easily be cut to other required lengths by Automotion (on request).

##### Finally

Decide whether a low profile slider or a solid body slider is required (low profile sliders are only available for T rails). The low profile (L1970.CES and L1971.CEX) sliders are less expensive than the solid body sliders.

##### Please note

It is very important to ensure that the correct low profile fixing screws are used with this rail (see part no. L1970.S for zinc plated steel and L1971.S for stainless steel). Using other higher profile heads may lead to contact between the underside of the slider and the top of the screws.