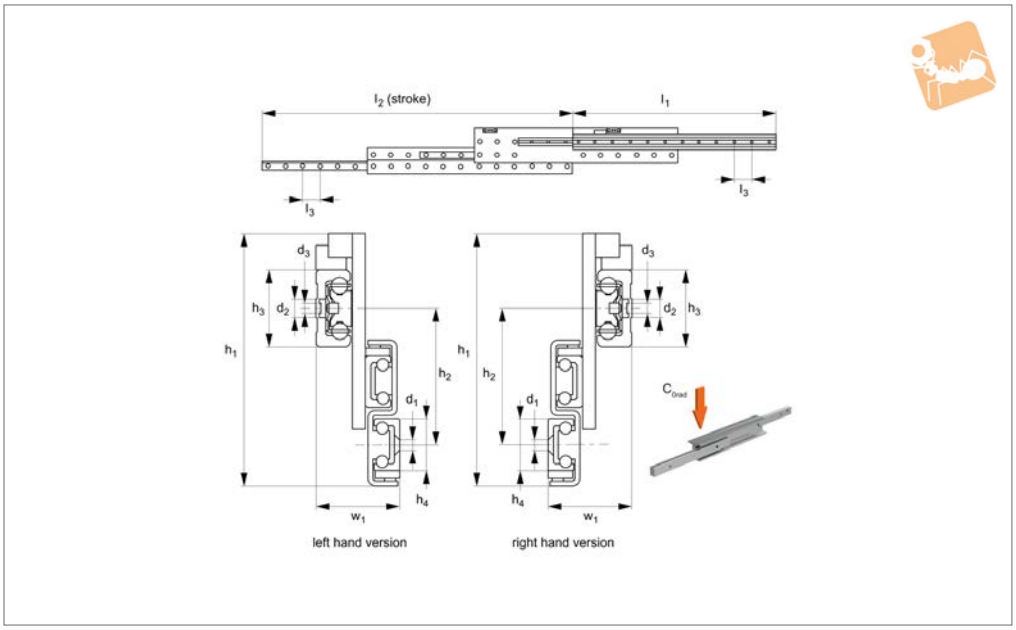
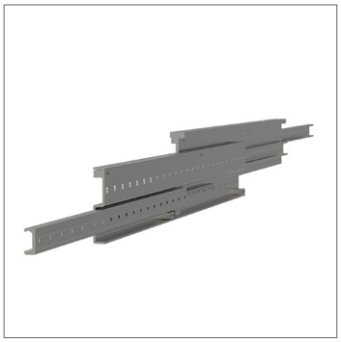
Extended Stroke Telescopic Slides

ultra heavy duty





L1998

Material

Cold drawn bearing steel raceways hardened to 60 HRc. Balls - hardened steel.
Zinc coating to ISO2081 (excluding raceways). Corrosion resistant coatings available on request.

Technical Notes

These are very heavy duty telescopic rails with strokes of over 150% of closed length.
C_{0rad} is the load rating for a single telescopic slide.
Moving rail must be lower rail (unless technical department consulted).

Tips

These are handed rails - i.e. left and right hands to be specified.

Order No.	Type	l_1	l_2 stroke	l_3	h_1	w_1	h_2	h_3	h_4	d_1	d_2	d_3	Load (per rail) $C_{0\ rad}$ N max.
L1998.63-0930R	Right	930	1444	80	207.5	68	112	63	43	8.5	15	9	4036
L1998.63-1010R	Right	1010	1554	80	207.5	68	112	63	43	8.5	15	9	4590
L1998.63-1090R	Right	1090	1664	80	207.5	68	112	63	43	8.5	15	9	4908
L1998.63-1170R	Right	1170	1804	80	207.5	68	112	63	43	8.5	15	9	4610
L1998.63-1250R	Right	1250	1914	80	207.5	68	112	63	43	8.5	15	9	4398
L1998.63-1330R	Right	1330	2054	80	207.5	68	112	63	43	8.5	15	9	4027
L1998.63-1410R	Right	1410	2164	80	207.5	68	112	63	43	8.5	15	9	3864
L1998.63-1490R	Right	1490	2274	80	207.5	68	112	63	43	8.5	15	9	3713
L1998.63-1570R	Right	1570	2414	80	207.5	68	112	63	43	8.5	15	9	3445
L1998.63-1650R	Right	1650	2524	80	207.5	68	112	63	43	8.5	15	9	3325
L1998.63-1730R	Right	1730	2634	80	207.5	68	112	63	43	8.5	15	9	3213
L1998.63-1810R	Right	1810	2774	80	207.5	68	112	63	43	8.5	15	9	3011
L1998.63-1890R	Right	1890	2884	80	207.5	68	112	63	43	8.5	15	9	2919
L1998.63-1970R	Right	1970	3024	80	207.5	68	112	63	43	8.5	15	9	2750
L1998.63-0930L	Left	930	1444	80	207.5	68	112	63	43	8.5	15	9	4036
L1998.63-1010L	Left	1010	1554	80	207.5	68	112	63	43	8.5	15	9	4590
L1998.63-1090L	Left	1090	1664	80	207.5	68	112	63	43	8.5	15	9	4908
L1998.63-1170L	Left	1170	1804	80	207.5	68	112	63	43	8.5	15	9	4610
L1998.63-1250L	Left	1250	1914	80	207.5	68	112	63	43	8.5	15	9	4398
L1998.63-1330L	Left	1330	2054	80	207.5	68	112	63	43	8.5	15	9	4027
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L1998.63-1890L	Left	1890	2884	80	207.5	68	112	63	43	8.5	15	9	2919
L1998.63-1970L	Left	1970	3024	80	207.5	68	112	63	43	8.5	15	9	2750

Extended Stroke Telescopic Slides

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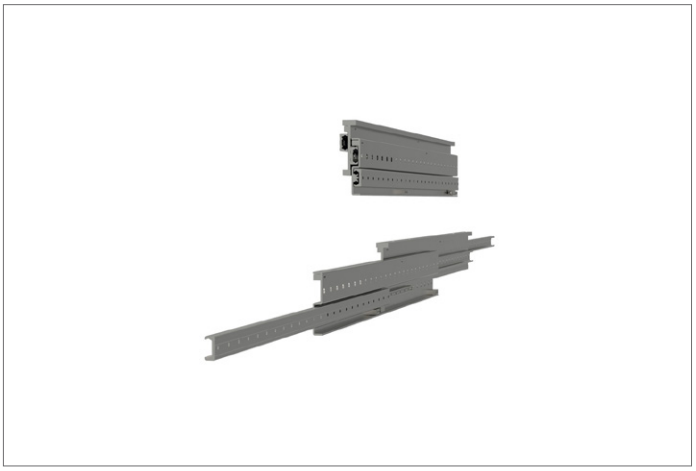
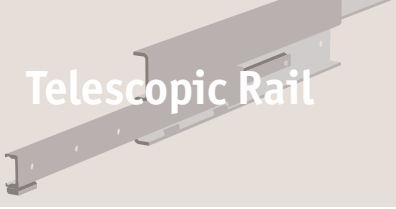
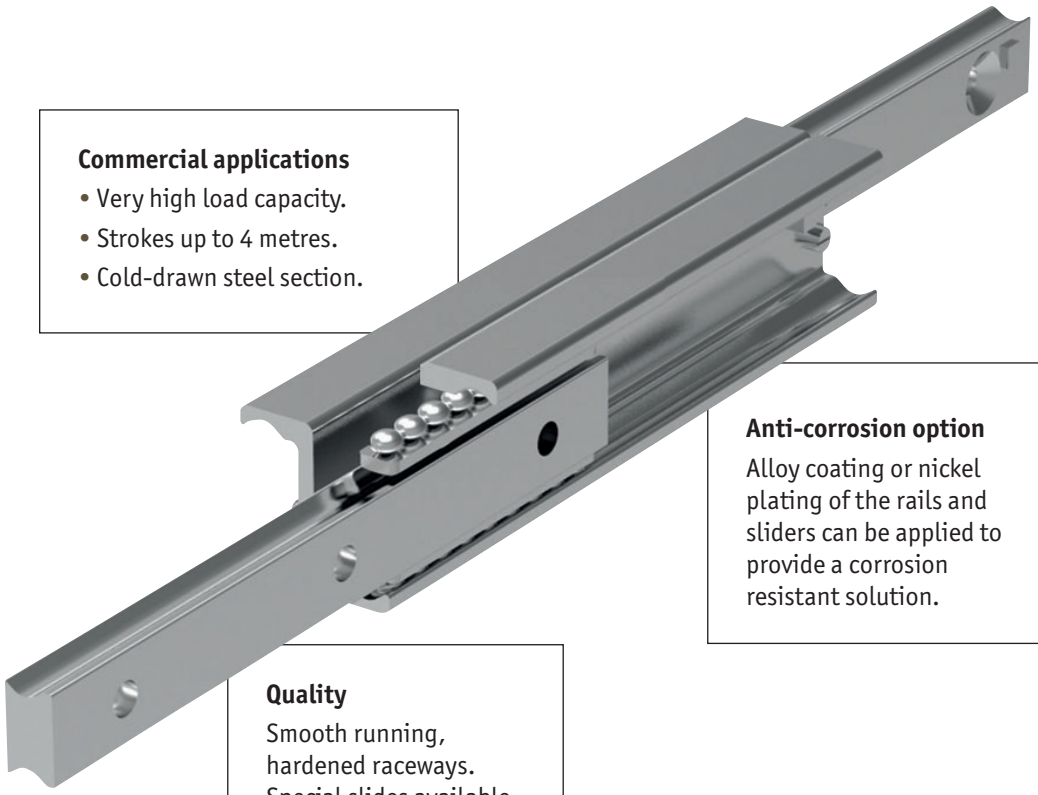




If you are looking for heavy duty, quality telescopic rails for industrial or commercial applications then these are the rails for you!

The best heavy duty telescopic slides on the market

These are unique rails that are not made from pressed steel but from cold-drawn steel section. The rails can take high loads, with very long strokes, with repeated use, low deflection and minimal play.



Commercial applications

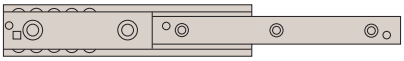
- Very high load capacity.
- Strokes up to 4 metres.
- Cold-drawn steel section.

Anti-corrosion option

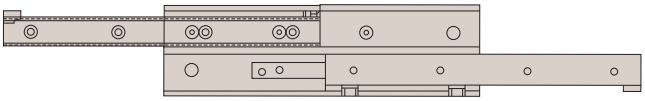
Alloy coating or nickel plating of the rails and sliders can be applied to provide a corrosion resistant solution.

Quality

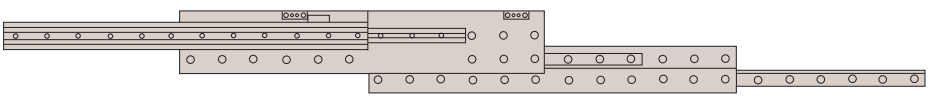
Smooth running, hardened raceways. Special slides available.



Partial Stroke (~60%)



Full Stroke (~100%)

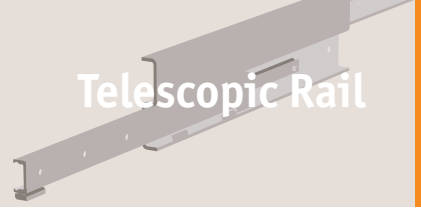


Over-extension (150%)

Rail types

Our range of telescopic rails covers partial, full stroke and over-extension.

For more information refer to our product specifications pages or call our technical department.



Telescopic Rail

Specifications and applications

Specifications

- Generally all our telescopic rails have induction hardened raceways.
- Cold drawn roller bearing steel.
- Maximum operating speed 0,8 m/s.
- Temperature range (mainly -30°C to +170°C).
- Electrolytic galvanised to ISO 2081, other anti-corrosion finishes on request.
- High load ratings with low deflection characteristics.
- Minimum play (even at maximum load ratings).
- Smooth, free running movement.
- Long strokes and heavy load ratings.
- Can be used in horizontal applications only (due to the use of a ball cage), with the exception of part number L1985 which uses roller bearings.
- Light duty "cage stops" are included on the telescopic rails to prevent damage to the ball cage. External end stops must be designed into your application (to protect the rails from high forces and possible damage on opening and closing).
- For telescopic rails with an "upper" and "lower" rail, the moving rail should be the lower one. Using the upper rail as the moving element effects the smooth running and the load capacity of the telescopic sliders.
- All load capacity figures are given for a single rail, and based on continuous use.
- Fix to structures using screws of strength class 10,9.
- Anti-corrosion option. We have a highly effective anti-corrosive coating option, and we utilise stainless steel ball bearings in this version.

Applications

Special purpose & packaging machines
Precision positioning systems
handling units
robotic systems • cutting machines

Seating
Sliding seats
disability ramps
seat extensions

Safety guarding
Extending protective systems
sliding gates
automatic pick & place

Logistics solutions
Container extensions
heavy duty extending systems
sliding doors

Disability vehicles
Sliding seats
extension ramps

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

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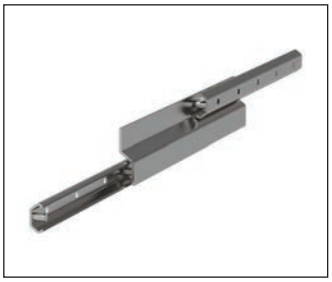
L1989 - these are full extension slides made from 316L stainless steel. For use in applications where corrosion may be a problem.

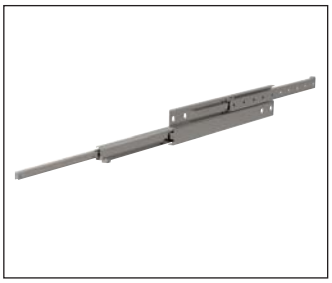
Standard extension	100%
Special extension range	No
Single & double direction?	No
Number of rail sizes	1
Maximum extension (at 100%)	1120 mm
Maximum load (per rail)	35 Kg



Extended stroke telescopic rails

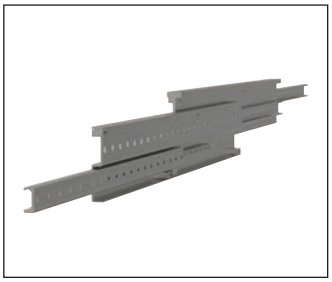
L1997 - these are extended stroke (150%), heavy duty telescopic rails, with high load capacity and stiffness.

Standard extension	150%
Special extension range	On request
Single & double direction?	No
Number of rail sizes	1
Maximum extension (at 150%)	3030 mm
Maximum load (per rail)	240 Kg



L1998 - these are extended stroke (150%), heavy duty telescopic rails. They have a solid steel intermediate element. They are our heaviest duty extended stroke units.

Standard extension	150%
Special extension range	On request
Single & double direction?	No
Number of rail sizes	1
Maximum extension (at 150%)	3020 mm
Maximum load (per rail)	480 Kg



Service life

The service life is defined as the time span between commissioning and the first fatigue or wear indications on the raceway. The service life of a telescopic rail is dependent on several factors, such as the effective load, the installation precision, occurring shocks and vibrations, the operating temperature, the ambient conditions and the lubrication.
Calculation of the service life is based exclusively on the loaded rows of balls.

In practice, the decommissioning of the bearing, due to its destruction or extreme wear of a component, represents the end of service life.

This is taken into account by an application coefficient (f_i), so the service life consists of:

$$L_{Km} = 100 \cdot \left(\frac{\delta}{W} \cdot \frac{1}{f_i} \right)^3$$

L = calculated service life in Km
δ = load capacity factor in N (see tables on following pages)
W = equivalent load in N
f_i = application coefficient

Application coefficient f_i

Operating conditions	Safety factor (.fi)
Neither shocks or vibrations, smooth and low-frequency direction change, clean environment	1,3 - 1,8
Light vibrations and average direction change	1,8 - 2,3
Shocks and vibrations, high-frequency direction change, very dirty environment	2,3 - 3,5

If the external load, P, is the same as the dynamic load capacity, C_{0rad} (which of course must never be exceeded), the service life at ideal operating conditions ($f_i = 1$) is 100Km.

For a single load P, the following applies: W = P.

If several external loads occur simultaneously, the equivalent load is calculated as follows:

$$W = P_{rad} + \left(\frac{P_{ax}}{C_{0ax}} + \frac{M_1}{M_x} + \frac{M_2}{M_y} + \frac{M_3}{M_z} \right) \cdot C_{0rad}$$