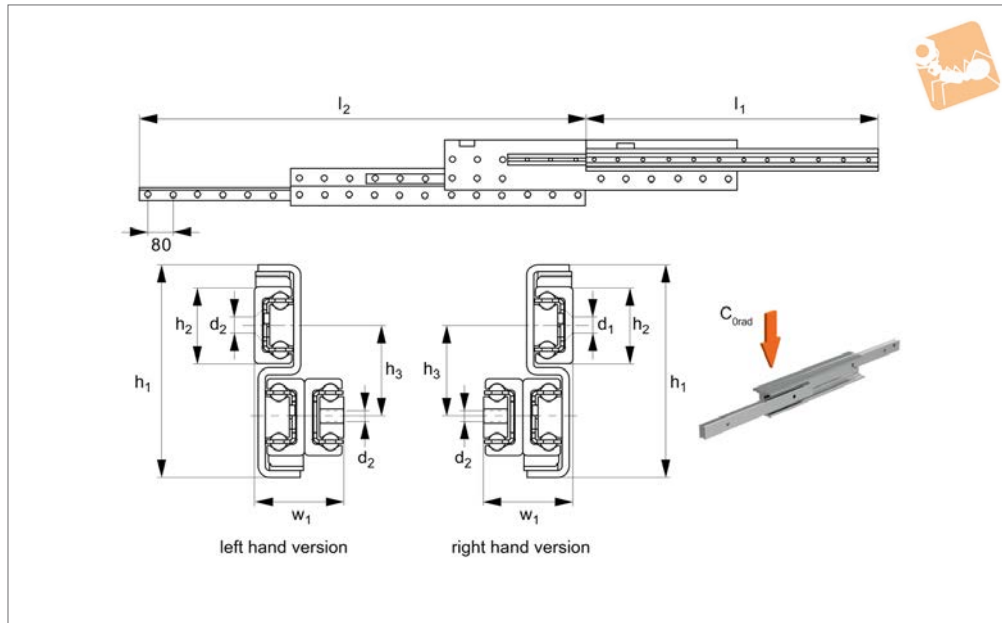
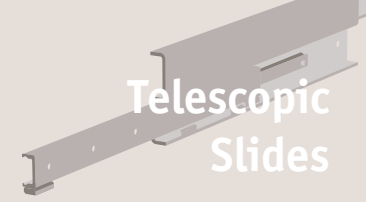




Extended Stroke Telescopic Slides

heavy duty



L1997

TELESCOPIC SLIDES

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).

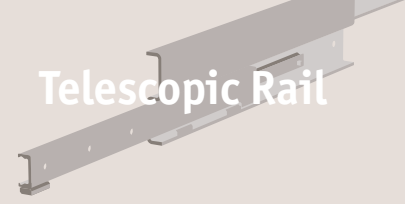
Tips

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

Order No.	Type	l_1	l_2	h_1	w_1	h_2	h_3	d_1	d_2	Load (per rail) C_{0rad} N max.
L1997.43-0530R	Right	530	834	120	50	43	52	8.5	M8	1291
L1997.43-0610R	Right	610	939	120	50	43	52	8.5	M8	1632
L1997.43-0690R	Right	690	1089	120	50	43	52	8.5	M8	1735
L1997.43-0770R	Right	770	1194	120	50	43	52	8.5	M8	2077
L1997.43-0850R	Right	850	1299	120	50	43	52	8.5	M8	2426
L1997.43-0930R	Right	930	1449	120	50	43	52	8.5	M8	2506
L1997.43-1010R	Right	1010	1554	120	50	43	52	8.5	M8	2364
L1997.43-1090R	Right	1090	1659	120	50	43	52	8.5	M8	2238
L1997.43-1170R	Right	1170	1809	120	50	43	52	8.5	M8	2022
L1997.43-1250R	Right	1250	1914	120	50	43	52	8.5	M8	1928
L1997.43-1330R	Right	1330	2064	120	50	43	52	8.5	M8	1766
L1997.43-1410R	Right	1410	2169	120	50	43	52	8.5	M8	1694
L1997.43-1490R	Right	1490	2274	120	50	43	52	8.5	M8	1628
L1997.43-1570R	Right	1570	2409	120	50	43	52	8.5	M8	1567
L1997.43-1650R	Right	1650	2529	120	50	43	52	8.5	M8	1458
L1997.43-1730R	Right	1730	2634	120	50	43	52	8.5	M8	1409
L1997.43-1810R	Right	1810	2784	120	50	43	52	8.5	M8	1320
L1997.43-1890R	Right	1890	2889	120	50	43	52	8.5	M8	1280
L1997.43-1970R	Right	1970	3039	120	50	43	52	8.5	M8	1206
L1997.43-0530L	Left	530	834	120	50	43	52	8.5	M8	1291
L1997.43-0610L	Left	610	939	120	50	43	52	8.5	M8	1632
L1997.43-0690L	Left	690	1089	120	50	43	52	8.5	M8	1735
L1997.43-0770L	Left	770	1194	120	50	43	52	8.5	M8	2077
L1997.43-0850L	Left	850	1299	120	50	43	52	8.5	M8	2426
L1997.43-0930L	Left	930	1449	120	50	43	52	8.5	M8	2506
L1997.43-1010L	Left	1010	1554	120	50	43	52	8.5	M8	2364
L1997.43-1090L	Left	1090	1659	120	50	43	52	8.5	M8	2238
L1997.43-1170L	Left	1170	1809	120	50	43	52	8.5	M8	2022
L1997.43-1250L	Left	1250	1914	120	50	43	52	8.5	M8	1928
L1997.43-1330L	Left	1330	2064	120	50	43	52	8.5	M8	1766



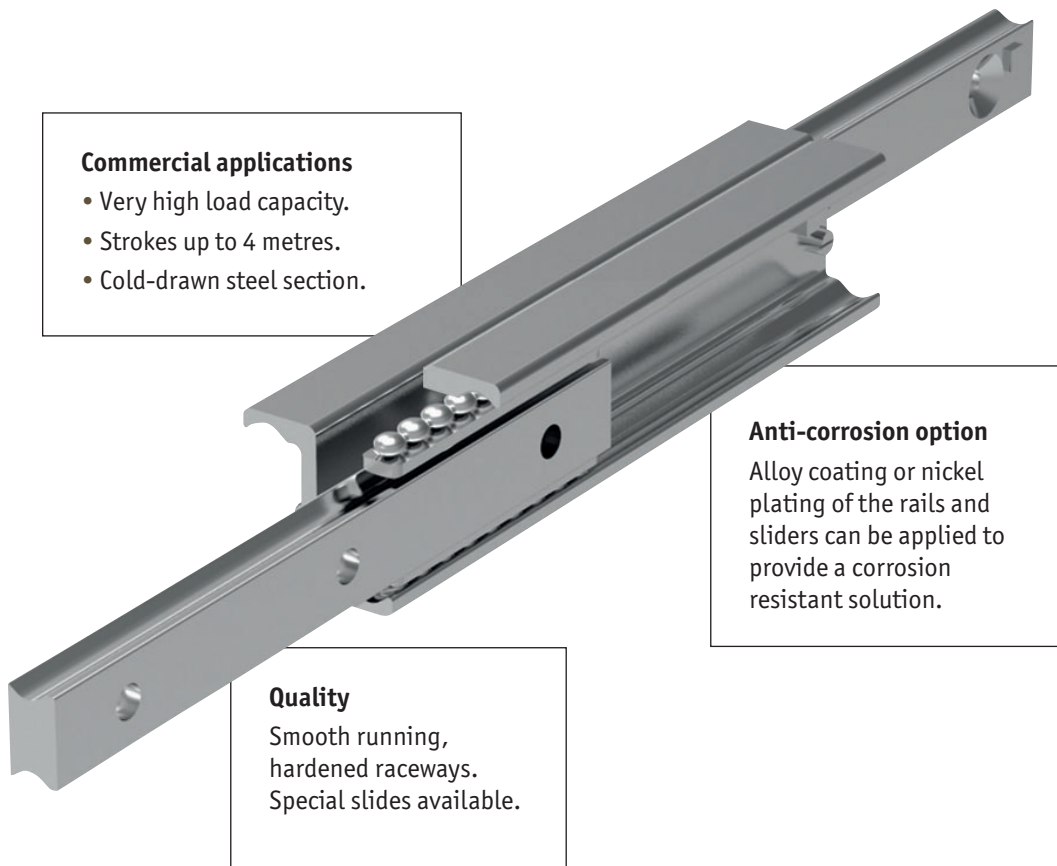
Order No.	Type	l_1	l_2	h_1	w_1	h_2	h_3	d_1	d_2	Load (per rail) $C_{0\text{rad}}$ N max.
L1997.43-1410L	Left	1410	2169	120	50	43	52	8.5	M8	1694
L1997.43-1490L	Left	1490	2274	120	50	43	52	8.5	M8	1628
L1997.43-1570L	Left	1570	2409	120	50	43	52	8.5	M8	1567
L1997.43-1650L	Left	1650	2529	120	50	43	52	8.5	M8	1458
L1997.43-1730L	Left	1730	2634	120	50	43	52	8.5	M8	1409
L1997.43-1810L	Left	1810	2784	120	50	43	52	8.5	M8	1320
L1997.43-1890L	Left	1890	2889	120	50	43	52	8.5	M8	1280
L1997.43-1970L	Left	1970	3039	120	50	43	52	8.5	M8	1206



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

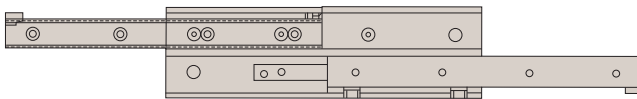
Alloy coating or nickel plating of the rails and sliders can be applied to provide a corrosion resistant solution.

Quality

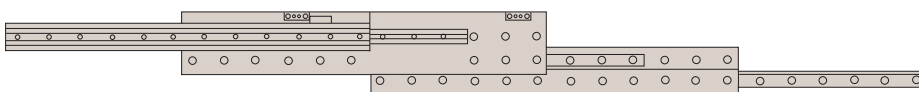
Smooth running, hardened raceways. Special slides available.



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.



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



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

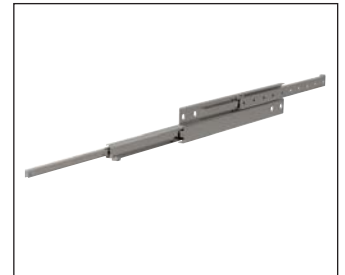
Standard extension	100%
Special extension range	No
Single & double direction?	No
Number of rail sizes	1
Maximum extension (at 100%)	1120 mm
Maximum load (per rail)	35 Kg



Extended stroke telescopic rails

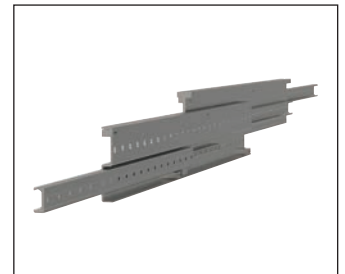
L1997 - these are extended stroke (150%), heavy duty telescopic rails, with high load capacity and stiffness.

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 (f_i)
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:

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