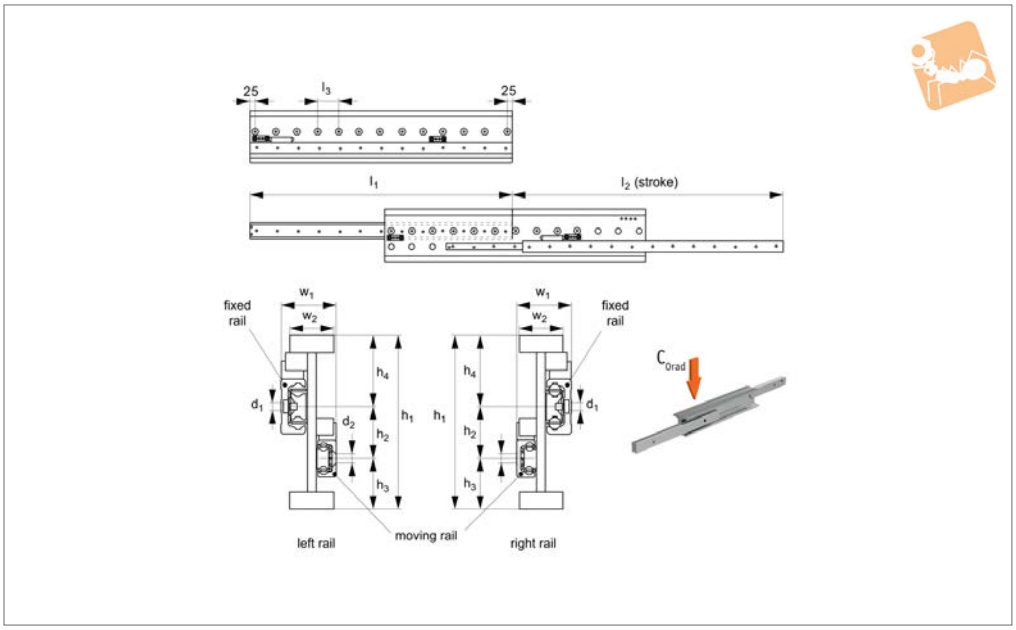


L1996

Material

Cold drawn bearing steel, raceways hardened to 60 HRc. Balls - hardened steel.
Zinc coating to ISO 2081 (excluding raceways). Corrosion resistant coatings available on request.

Technical Notes

These are ultra-heavy load capacity. They can support heavy loads with continuous movements 24 hours per day, 7 days a week - even with vibration and high stroke frequency.
Weight: 43 Kg/metre.
C_{0rad} is the load rating for a single telescopic slide.
Moving rail must be lower rail (unless technical department consulted).

Tips

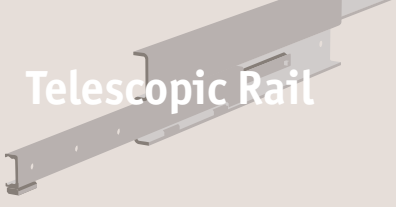
d_1 for low head socket cap screws (DIN 7984), d_2 for countersunk head screws (DIN 7991).
Double direction stroke versions can be provided on request.

Order No.	Type	l_1	l_2 stroke	h_1	h_2	h_3	h_4	l_3	w_1	w_2	d_1 for	d_2 for	Fixed part acc. holes /total	Moving part acc. holes /total	Load (per rail) $C_{0\,rad}$ N max.
L1996.63-1010R	Right	1010	1051	200	60	58,5	81,5	80	63	50	M8	M8	10/13	10/13	8052
L1996.63-1090R	Right	1090	1141	200	60	58,5	81,5	80	63	50	M8	M8	10/14	11/14	8748
L1996.63-1170R	Right	1170	1216	200	60	58,5	81,5	80	63	50	M8	M8	11/15	11/15	9584
L1996.63-1250R	Right	1250	1291	200	60	58,5	81,5	80	63	50	M8	M8	12/16	13/16	10424
L1996.63-1330R	Right	1330	1381	200	60	58,5	81,5	80	63	50	M8	M8	13/17	13/17	11119
L1996.63-1410R	Right	1410	1456	200	60	58,5	81,5	80	63	50	M8	M8	13/18	14/18	11960
L1996.63-1490R	Right	1490	1531	200	60	58,5	81,5	80	63	50	M8	M8	14/19	14/19	12804
L1996.63-1570R	Right	1570	1621	200	60	58,5	81,5	80	63	50	M8	M8	14/20	15/20	13498
L1996.63-1650R	Right	1650	1696	200	60	58,5	81,5	80	63	50	M8	M8	16/21	16/21	14343
L1996.63-1730R	Right	1730	1771	200	60	58,5	81,5	80	63	50	M8	M8	16/22	17/22	15190
L1996.63-1810R	Right	1810	1861	200	60	58,5	81,5	80	63	50	M8	M8	17/23	17/23	15883
L1996.63-1890R	Right	1890	1936	200	60	58,5	81,5	80	63	50	M8	M8	18/24	19/24	16730
L1996.63-1970R	Right	1970	2026	200	60	58,5	81,5	80	63	50	M8	M8	19/25	19/25	17423
L1996.63-2050R	Right	2050	2101	200	60	58,5	81,5	80	63	50	M8	M8	19/26	20/26	18271
L1996.63-2130R	Right	2130	2176	200	60	58,5	81,5	80	63	50	M8	M8	20/27	20/27	19120
L1996.63-2210R	Right	2210	2266	200	60	58,5	81,5	80	63	50	M8	M8	21/28	22/28	19812
L1996.63-1010L	Left	1010	1051	200	60	58,5	81,5	80	63	50	M8	M8	10/13	10/13	8052
L1996.63-1090L	Left	1090	1141	200	60	58,5	81,5	80	63	50	M8	M8	10/14	11/14	8748
L1996.63-1170L	Left	1170	1216	200	60	58,5	81,5	80	63	50	M8	M8	11/15	11/15	9584
L1996.63-1250L	Left	1250	1291	200	60	58,5	81,5	80	63	50	M8	M8	12/16	13/16	10424
L1996.63-1330L	Left	1330	1381	200	60	58,5	81,5	80	63	50	M8	M8	13/17	13/17	11119
L1996.63-1410L	Left	1410	1456	200	60	58,5	81,5	80	63	50	M8	M8	13/18	14/18	11960
L1996.63-1490L	Left	1490	1531	200	60	58,5	81,5	80	63	50	M8	M8	14/19	14/19	12804
L1996.63-1570L	Left	1570	1621	200	60	58,5	81,5	80	63	50	M8	M8	14/20	15/20	13498
L1996.63-1650L	Left	1650	1696	200	60	58,5	81,5	80	63	50	M8	M8	16/21	16/21	14343
L1996.63-1730L	Left	1730	1771	200	60	58,5	81,5	80	63	50	M8	M8	16/22	17/22	15190

Fully Telescopic Slides

ultra heavy-duty

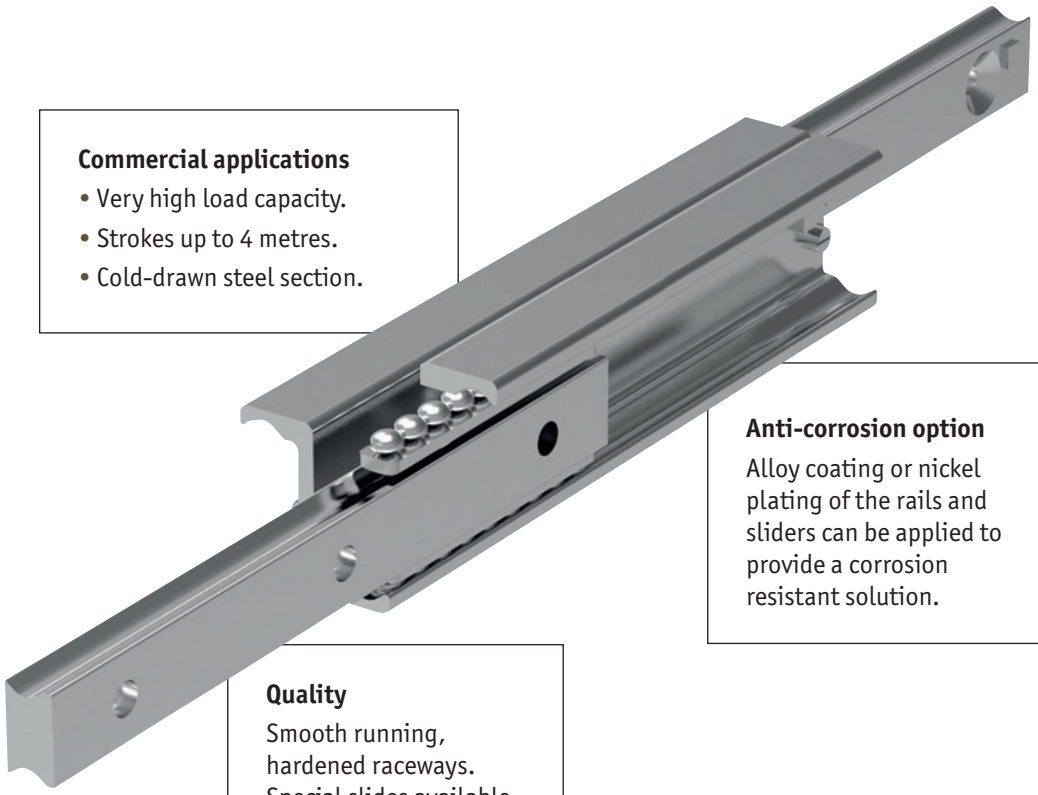
Order No.	Type	l_1	l_2 stroke	h_1	h_2	h_3	h_4	l_3	w_1	w_2	d_1 for	d_2 for	Fixed part acc. holes /total	Moving part acc. holes /total	Load (per rail) $C_{0\,rad}$ N max.
L1996.63-1810L	Left	1810	1861	200	60	58,5	81,5	80	63	50	M8	M8	17/23	17/23	15883
L1996.63-1890L	Left	1890	1936	200	60	58,5	81,5	80	63	50	M8	M8	18/24	19/24	16730
L1996.63-1970L	Left	1970	2026	200	60	58,5	81,5	80	63	50	M8	M8	19/25	19/25	17423
L1996.63-2050L	Left	2050	2101	200	60	58,5	81,5	80	63	50	M8	M8	19/26	20/26	18271
L1996.63-2130L	Left	2130	2176	200	60	58,5	81,5	80	63	50	M8	M8	20/27	20/27	19120
L1996.63-2210L	Left	2210	2266	200	60	58,5	81,5	80	63	50	M8	M8	21/28	22/28	19812



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

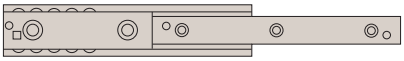
- Very high load capacity.
- Strokes up to 4 metres.
- Cold-drawn steel section.

Anti-corrosion option

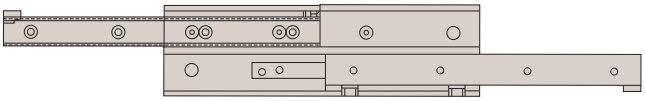
Alloy coating or nickel plating of the rails and sliders can be applied to provide a corrosion resistant solution.

Quality

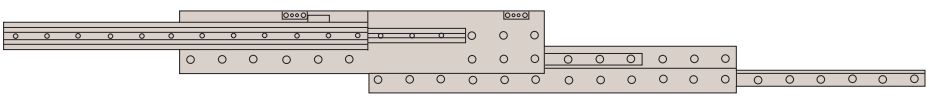
Smooth running, hardened raceways. Special slides available.



Partial Stroke (~60%)



Full Stroke (~100%)

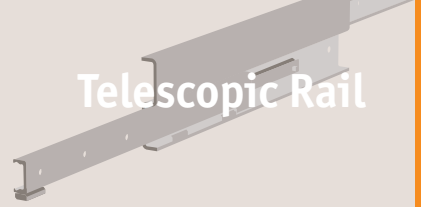


Over-extension (150%)

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

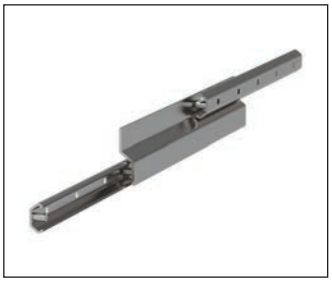
Transport (automotive)
Ambulance sliding systems
fire fighting vehicles
sliding panels

Transport (military)
Sliding seats
protective hatches
stretcher extensions

ov-telescopic-rail-specifications-applications-lmh - Updated - 03-03-2023

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

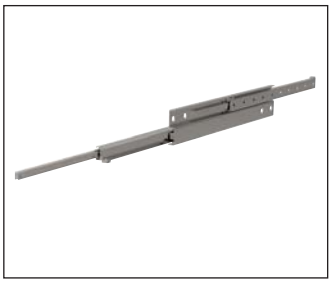
Standard extension	100%
Special extension range	No
Single & double direction?	No
Number of rail sizes	1
Maximum extension (at 100%)	1120 mm
Maximum load (per rail)	35 Kg



Extended stroke telescopic rails

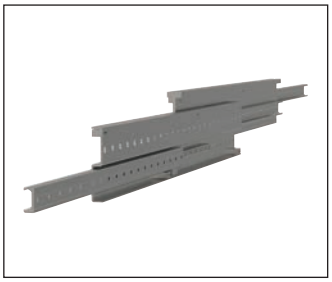
L1997 - these are extended stroke (150%), heavy duty telescopic rails, with high load capacity and stiffness.

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:

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