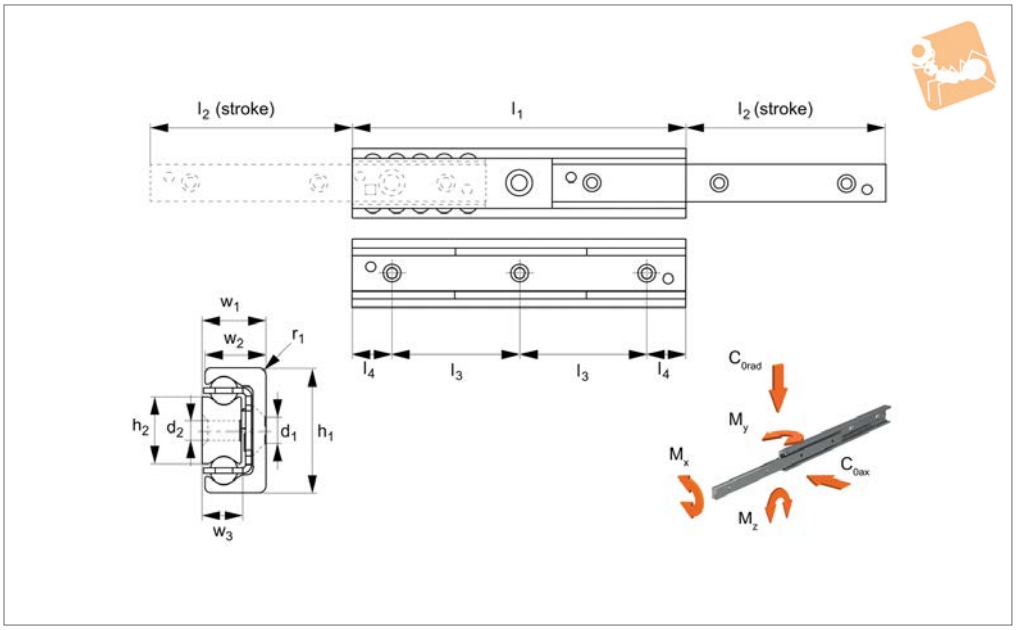


L1994.43

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 extremely strong and rigid telescopic slides with high load capacities, offering a semi-telescopic movement. C_{0rad} is the load rating for a single telescopic slide. They have very low deflection characteristics.
Weight 5,25 Kg/m.
Temperature range: -30°C to +170°C.

Tips

A double direction stroke can be obtained by removing the end stops screws at the end of each side of the intermediate member.
For double direction strokes, when the moving element has started the stroke in the opposite direction it will catch the intermediate member and force it to return.
The slides have end stops, but these are not designed to stop a moving, loaded slide. External end stops should be used for this.
Special strokes up to 65% of the closed length can be provided on request.

Important Notes

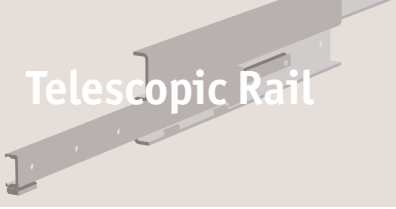
d_1=Ø8.5 and d_2=M8.
r=2,5.

Order No.	l_1	l_2 stroke	h_1	w_1	l_3	l_4	h_2	w_2	w_3	No. of holes	Load (per rail) C_0 ax N max.	Load (per rail) C_0 rad N max.	M_x Nm max.	M_y Nm max.	M_z Nm max.
L1994.43-0210	210	123	43	22	80	25	23	21	13,5	3	1190	1700	62	89	123
L1994.43-0290	290	158	43	22	80	25	23	21	13,5	4	2123	3033	96,5	204	294
L1994.43-0370	370	208	43	22	80	25	23	21	13,5	5	2482	3546	119	313	444
L1994.43-0450	450	243	43	22	80	25	23	21	13,5	6	3436	4909	151	514	735
L1994.43-0530	530	278	43	22	80	25	23	21	13,5	7	4415	6308	184	766	1092
L1994.43-0610	610	313	43	22	80	25	23	21	13,5	8	5410	7728	210	1069	1525
L1994.43-0690	690	363	43	22	80	25	23	21	13,5	9	5730	8185	240	1297	1853
L1994.43-0770	770	398	43	22	80	25	23	21	13,5	10	6533	9490	273	1687	2405
L1994.43-0850	850	433	43	22	80	25	23	21	13,5	11	7432	10617	305	2120	3030
L1994.43-0930	930	483	43	22	80	25	23	21	13,5	12	8034	11477	331	2442	3489
L1994.43-1010	1010	518	43	22	80	25	23	21	13,5	13	9031	12902	362,5	2964	4233
L1994.43-1090	1090	568	43	22	80	25	23	21	13,5	14	9904	13360	384	3343	4775
L1994.43-1170	1170	603	43	22	80	25	23	21	13,5	15	10342	14774	417	3945	5636
L1994.43-1250	1250	638	43	22	80	25	23	21	13,5	16	11198	16048	450	4602	6575
L1994.43-1330	1330	688	43	22	80	25	23	21	13,5	17	11654	16649	470,5	5067	7237
L1994.43-1410	1410	723	43	22	80	25	23	21	13,5	18	12618	17963	505	5809	8300
L1994.43-1490	1490	758	43	22	80	25	23	21	13,5	19	13366	19094	538	6601	9427
L1994.43-1570	1570	793	43	22	80	25	23	21	13,5	20	14532	20704	572	7442	10630
L1994.43-1650	1650	843	43	22	80	25	23	21	13,5	21	14964	21378	593,5	8032	11476
L1994.43-1730	1730	878	43	22	80	25	23	21	13,5	22	15962	22796	626	8961	12799
L1994.43-1810	1810	928	43	22	80	25	23	21	13,5	23	16274	23249	650	9603	13722
L1994.43-1890	1890	963	43	22	80	25	23	21	13,5	24	17142	24213	684	10619	15170

Partially Telescopic Slides

size 43

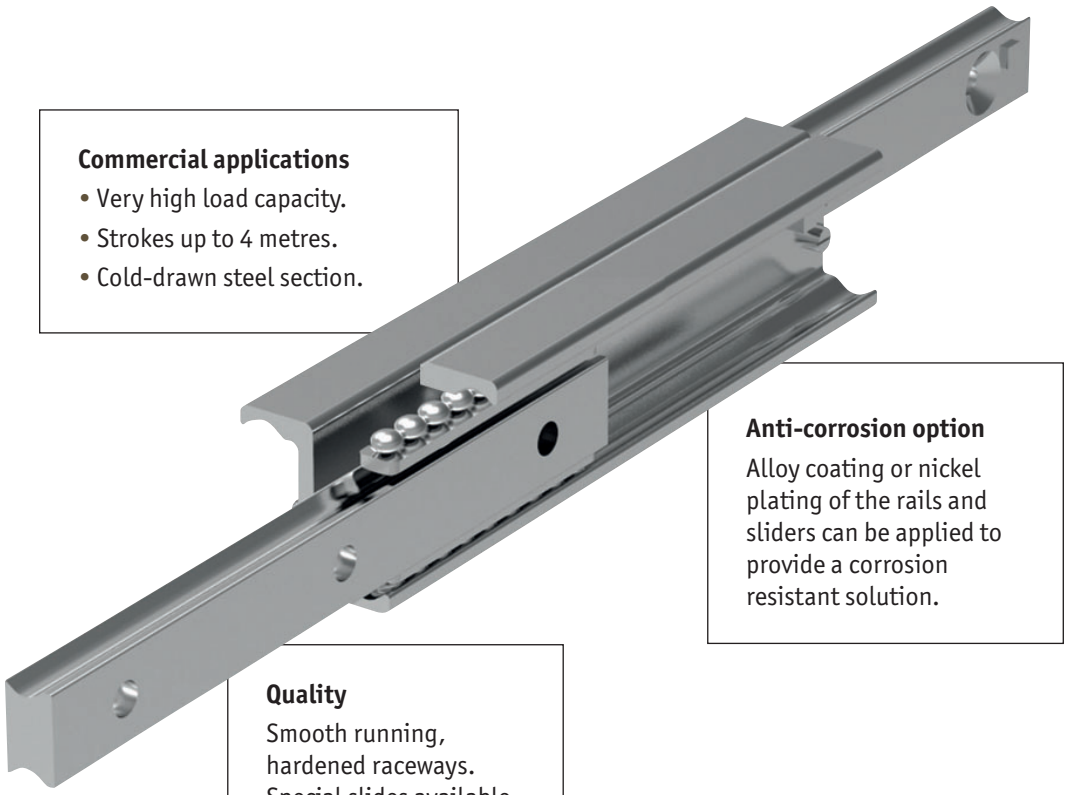
Order No.	l_1	l_2 stroke	h_1	w_1	l_3	l_4	h_2	w_2	w_3	No. of holes	Load (per rail) C_0 ^{ax} N max.	Load (per rail) C_0 ^{rad} N max.	M_x Nm max.	M_y Nm max.	M_z Nm max.
L1994.43-1970	1970	1013	43	22	80	25	23	21	13,5	25	17585	25122	709	11320	16169



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

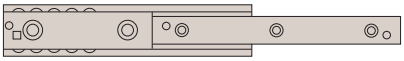
- Very high load capacity.
- Strokes up to 4 metres.
- Cold-drawn steel section.

Anti-corrosion option

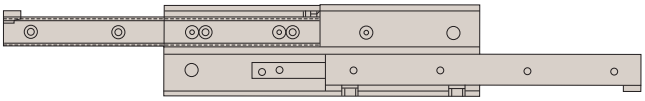
Alloy coating or nickel plating of the rails and sliders can be applied to provide a corrosion resistant solution.

Quality

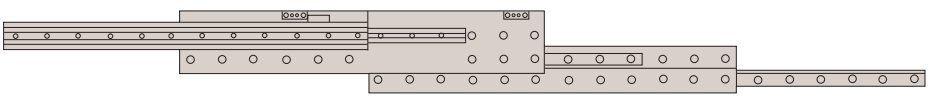
Smooth running, hardened raceways. Special slides available.



Partial Stroke (~60%)



Full Stroke (~100%)

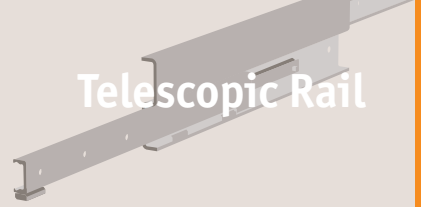


Over-extension (150%)

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

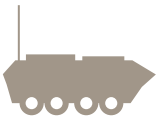
Logistics solutions
Container extensions
heavy duty extending systems
sliding doors

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

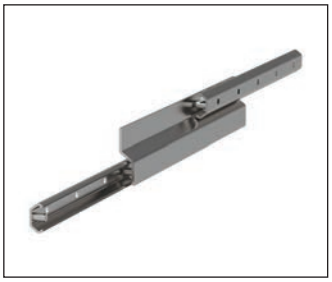


Transport (military)
Sliding seats
protective hatches
stretcher extensions

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.

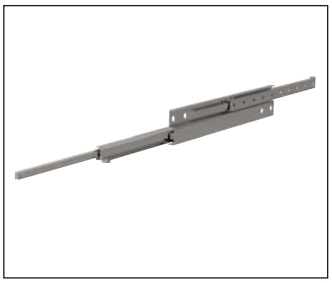
Standard extension	100%
Special extension range	No
Single & double direction?	No
Number of rail sizes	1
Maximum extension (at 100%)	1120 mm
Maximum load (per rail)	35 Kg



Extended stroke telescopic rails

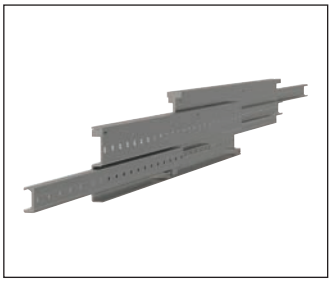
L1997 - these are extended stroke (150%), heavy duty telescopic rails, with high load capacity and stiffness.

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:

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