



The Easy Slide family of linear rails have a compact cross-section and low-friction movement.

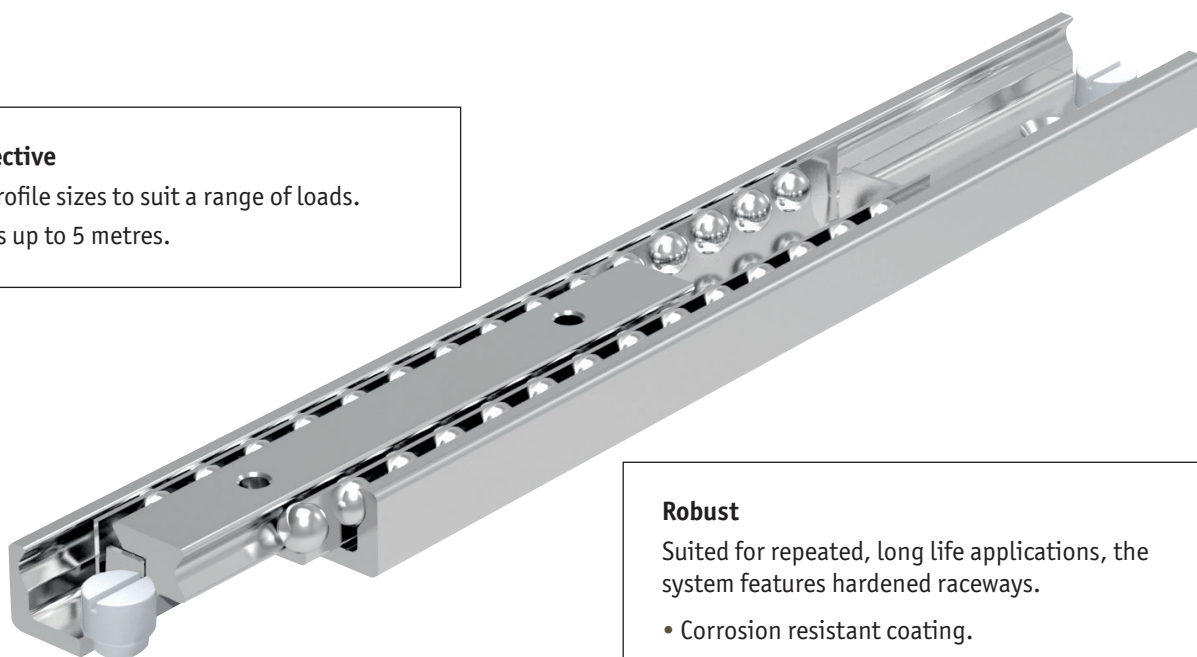
Robust and long service life

Easy Slide's range of cross-sectional rail sizes allow for applications in which high load capacities can be applied, combined with a very long service life.

This is achieved through producing the guide rails and sliders from cold-drawn bearing steel, the ball cage from steel and the balls from hardened bearing steel. The raceways of the guide rails and sliders are induction hardened. The system can be provided with anti-corrosion coating and stainless steel cages and balls.

Cost-effective

- 4 rail profile sizes to suit a range of loads.
- Lengths up to 5 metres.



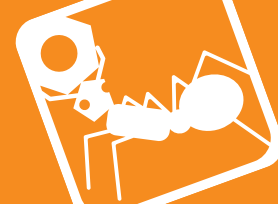
Robust

Suited for repeated, long life applications, the system features hardened raceways.

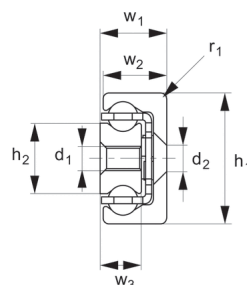
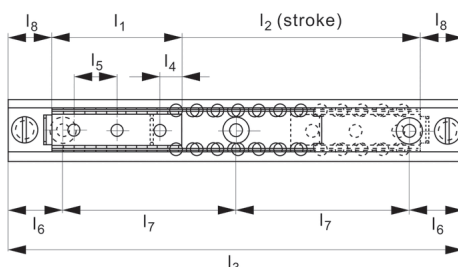
- Corrosion resistant coating.
- Stainless steel cage & ball option.

Horizontal applications only

Please note: For high acceleration/deceleration movement, cage creep may occur especially with long ball cage versions. Please see technical notes to minimise this.



L1972.28



Material

Cold drawn steel, zinc plated (excluding raceways). Induction hardened raceways. High precision, bearing steel balls with steel cages.

Technical Notes

Smooth movement, with very little friction

(less than 0,01). Speeds up to 0,8 m/s.

To ensure all fixing holes in the rail are accessible l_1 must be $< (l_3 / 2) - (2 \times l_8)$. To ensure proper smooth movement the stroke, l_2 must be $< 7 \times l_1$.

Rail weight: 1,0 Kg/m.

Tips

Must be mounted to a rigid structure.

Stroke end stops must be fitted.

Only to be used for horizontal movements.

Order No.	l_1	l_3	l_2 stroke	h_1	w_1	d_1	d_2 for	Load C_{0ax} N max.	Load C_{0rad} N	M_x Nm	M_y Nm	M_z Nm
L1972.S2806000300130	60	130	30	28	13	M5	M5	2436	3480	18	25	37
L1972.S2806001100210	60	210	110	28	13	M5	M5	2436	3480	18	25	37
L1972.S2806001900290	60	290	190	28	13	M5	M5	2436	3480	18	25	37
L1972.S2806002700370	60	370	270	28	13	M5	M5	2436	3480	18	25	37
L1972.S2806003500450	60	450	350	28	13	M5	M5	2436	3480	18	25	37
L1972.S2808000900210	80	210	90	28	13	M5	M5	3248	4640	23	45	65
L1972.S2808001700290	80	290	170	28	13	M5	M5	3248	4640	23	45	65
L1972.S2808002500370	80	370	250	28	13	M5	M5	3248	4640	23	45	65
L1972.S2808003300450	80	450	330	28	13	M5	M5	3248	4640	23	45	65
L1972.S2808004100530	80	530	410	28	13	M5	M5	3248	4640	23	45	65
L1972.S2808004900610	80	610	490	28	13	M5	M5	3248	4640	23	45	65
L1972.S2813001200290	130	290	120	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813002000370	130	370	200	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813002800450	130	450	280	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813003600530	130	530	360	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813004400610	130	610	440	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813005200690	130	690	520	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813006000770	130	770	600	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813006800850	130	850	680	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813007600930	130	930	760	28	13	M5	M5	5278	7540	38	117	166
L1972.S2813008401010	130	1010	840	28	13	M5	M5	5278	7540	38	117	166
L1972.S2821002000450	210	450	200	28	13	M5	M5	8526	12180	62	300	430
L1972.S2821002800530	210	530	280	28	13	M5	M5	8526	12180	62	300	430
L1972.S2821003600610	210	610	360	28	13	M5	M5	8526	12180	62	300	430
L1972.S2821004400690	210	690	440	28	13	M5	M5	8526	12180	62	300	430
L1972.S2821005200770	210	770	520	28	13	M5	M5	8526	12180	62	300	430
L1972.S2821006000850	210	850	600	28	13	M5	M5	8526	12180	62	300	430
L1972.S2821006800930	210	930	680	28	13	M5	M5	8526	12180	62	300	430
L1972.S2821007601010	210	1010	760	28	13	M5	M5	8526	12180	62	300	430



Easy Slide - Size 28

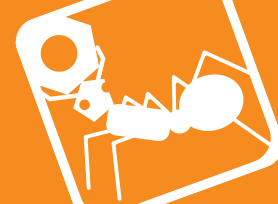


Long Linear
Rails

Order No.	l_1	l_3	l_2 stroke	h_1	w_1	d_1	d_2 for	Load $C_{0\text{ ax}}$ N max.	Load $C_{0\text{ rad}}$ N	M_x Nm	M_y Nm	M_z Nm
L1972.S2821009201170	210	1170	920	28	13	M5	M5	8526	12180	62	300	430
L1972.S2821010801330	210	1330	1080	28	13	M5	M5	8526	12180	62	300	430
L1972.S2829002800610	290	610	280	28	13	M5	M5	11774	16820	83	570	815
L1972.S2829003600690	290	690	360	28	13	M5	M5	11774	16820	83	570	815
L1972.S2829004400770	290	770	440	28	13	M5	M5	11774	16820	83	570	815
L1972.S2829005200850	290	850	520	28	13	M5	M5	11774	16820	83	570	815
L1972.S2829006000930	290	930	600	28	13	M5	M5	11774	16820	83	570	815
L1972.S2829006801010	290	1010	680	28	13	M5	M5	11774	16820	83	570	815
L1972.S2829008401170	290	1170	840	28	13	M5	M5	11774	16820	83	570	815
L1972.S2829010001330	290	1330	1000	28	13	M5	M5	11774	16820	83	570	815
L1972.S2829011601490	290	1490	1160	28	13	M5	M5	11774	16820	83	570	815
L1972.S2837003600770	370	770	360	28	13	M5	M5	15022	21460	106	930	1327
L1972.S2837004500850	370	850	440	28	13	M5	M5	15022	21460	106	930	1327
L1972.S2837005200930	370	930	520	28	13	M5	M5	15022	21460	106	930	1327
L1972.S2837006001010	370	1010	600	28	13	M5	M5	15022	21460	106	930	1327
L1972.S2837007601170	370	1170	760	28	13	M5	M5	15022	21460	106	930	1327
L1972.S2837009201330	370	1330	920	28	13	M5	M5	15022	21460	106	930	1327
L1972.S2837010801490	370	1490	1080	28	13	M5	M5	15022	21460	106	930	1327
L1972.S2845004400930	450	930	440	28	13	M5	M5	18270	26100	130	1374	1960
L1972.S2845005201010	450	1010	520	28	13	M5	M5	18270	26100	130	1374	1960
L1972.S2845006801170	450	1170	680	28	13	M5	M5	18270	26100	130	1374	1960
L1972.S2845008401330	450	1330	840	28	13	M5	M5	18270	26100	130	1374	1960
L1972.S2845010001490	450	1490	1000	28	13	M5	M5	18270	26100	130	1374	1960
L1972.S2845011601650	450	1650	1160	28	13	M5	M5	18270	26100	130	1374	1960

Order No.	l_4	l_5	Holes/ slider	l_6	l_7	l_8	h_2	w_2	w_3	R
L1972.S28060003 00130	10	20	3	25	80	20	15	12.25	7.5	1
L1972.S28060011 00210	10	20	3	25	80	20	15	12.25	7.5	1
L1972.S28060019 00290	10	20	3	25	80	20	15	12.25	7.5	1
L1972.S28060027 00370	10	20	3	25	80	20	15	12.25	7.5	1
L1972.S28060035 00450	10	20	3	25	80	20	15	12.25	7.5	1
L1972.S28080009 00210	10	20	4	25	80	20	15	12.25	7.5	1
L1972.S28080017 00290	10	20	4	25	80	20	15	12.25	7.5	1
L1972.S28080025 00370	10	20	4	25	80	20	15	12.25	7.5	1
L1972.S28080033 00450	10	20	4	25	80	20	15	12.25	7.5	1
L1972.S28080041 00530	10	20	4	25	80	20	15	12.25	7.5	1
L1972.S28080049 00610	10	20	4	25	80	20	15	12.25	7.5	1
L1972.S28130012 00290	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28130020 00370	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28130028 00450	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28130036 00530	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28130044 00610	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28130052 00690	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28130060 00770	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28130068 00850	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28130076 00930	25	80	2	25	80	20	15	12.25	7.5	1



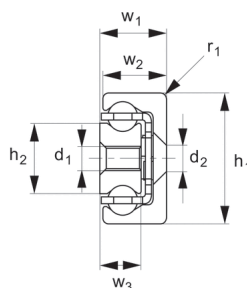
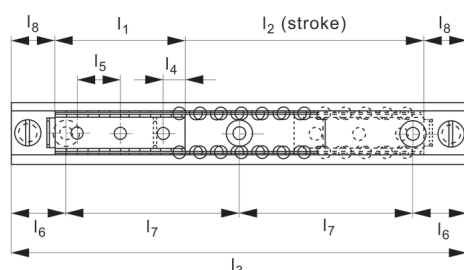


Order No.	l ₄	l ₅	Holes/ slider	l ₆	l ₇	l ₈	h ₂	w ₂	w ₃	R
L1972.S28130084 01010	25	80	2	25	80	20	15	12.25	7.5	1
L1972.S28210020 00450	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210028 00530	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210036 00610	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210044 00690	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210052 00770	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210060 00850	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210068 00930	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210076 01010	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210092 01170	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28210108 01330	25	80	3	25	80	20	15	12.25	7.5	1
L1972.S28290028 00610	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28290036 00690	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28290044 00770	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28290052 00850	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28290060 00930	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28290068 01010	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28290084 01170	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28290100 01330	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28290116 01490	25	80	4	25	80	20	15	12.25	7.5	1
L1972.S28370036 00770	25	80	5	25	80	20	15	12.25	7.5	1
L1972.S28370045 00850	25	80	5	25	80	20	15	12.25	7.5	1
L1972.S28370052 00930	25	80	5	25	80	20	15	12.25	7.5	1
L1972.S28370060 01010	25	80	5	25	80	20	15	12.25	7.5	1
L1972.S28370076 01170	25	80	5	25	80	20	15	12.25	7.5	1
L1972.S28370092 01330	25	80	5	25	80	20	15	12.25	7.5	1
L1972.S28370108 01490	25	80	5	25	80	20	15	12.25	7.5	1
L1972.S28450044 00930	25	80	6	25	80	20	15	12.25	7.5	1
L1972.S28450052 01010	25	80	6	25	80	20	15	12.25	7.5	1
L1972.S28450068 01170	25	80	6	25	80	20	15	12.25	7.5	1
L1972.S28450084 01330	25	80	6	25	80	20	15	12.25	7.5	1
L1972.S28450100 01490	25	80	6	25	80	20	15	12.25	7.5	1
L1972.S28450116 01650	25	80	6	25	80	20	15	12.25	7.5	1



Easy Slide- Size 35

Long Linear Rails



L1972.35

LONG LINEAR RAILS

Material

Cold drawn steel, zinc plated (excluding raceways). Induction hardened raceways. High precision, bearing steel balls with steel cages.

(less than 0,01). Speeds up to 0,8 m/s. To ensure all fixing holes in the rail are accessible l_1 must be $< (l_3 / 2) - (2 \times l_8)$. To ensure proper smooth movement the stroke, l_2 must be $< l_1$. Rail weight: 1,8 Kg/m.

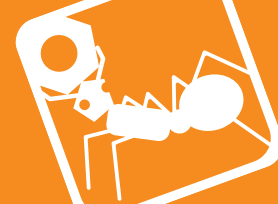
Tips

Must be mounted to a rigid structure. Stroke end stops must be fitted. Only to be used for horizontal movements.

Technical Notes

Smooth movement, with very little friction

Order No.	l_1	l_2	l_3	h_1	w_1	d_1	d_2 for	Load C_{0ax} N max.	Load C_{0rad} N max.	M_x Nm	M_y Nm	M_z Nm
L1972.S3513001100290	130	110	290	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513001900370	130	190	370	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513002700450	130	270	450	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513003500530	130	350	530	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513004300610	130	430	610	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513005100690	130	510	690	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513005900770	130	590	770	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513006700850	130	670	850	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513007500930	130	750	930	35	17	M6	M6	6825	9750	50	156	219
L1972.S3513008301010	130	830	1010	35	17	M6	M6	6825	9750	50	156	219
L1972.S3521001900450	210	190	450	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521002700530	210	270	530	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521003500610	210	350	610	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521004300690	210	430	690	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521005100770	210	510	770	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521005900850	210	590	850	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521006700930	210	670	930	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521007501010	210	750	1010	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521009101170	210	910	1170	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521010701330	210	1070	1330	35	17	M6	M6	11025	15750	87	397	560
L1972.S3521012301490	210	1230	1490	35	17	M6	M6	11025	15750	87	397	560
L1972.S3529002700610	290	270	610	35	17	M6	M6	15225	21750	109	745	1086
L1972.S3529003500690	290	350	690	35	17	M6	M6	15225	21750	109	745	1086
L1972.S3529004300770	290	430	770	35	17	M6	25	15225	21750	109	745	1086
L1972.S3529005100850	290	510	850	35	17	M6	M6	15225	21750	109	745	1086
L1972.S3529005900930	290	590	930	35	17	M6	M6	15225	21750	109	745	1086
L1972.S3529006701010	290	670	1010	35	17	M6	M6	15225	21750	109	745	1086
L1972.S3529008301170	290	830	1170	35	17	M6	M6	15225	21750	109	745	1086
L1972.S3529009901330	290	990	1330	35	17	M6	M6	15225	21750	109	745	1086



Order No.	l_1	l_2	l_3	h_1	w_1	d_1	d_2 for	Load $C_{0\text{ ax}}$ N max.	Load $C_{0\text{ rad}}$ N max.	M_x Nm	M_y Nm	M_z Nm
L1972.S3529011501490	290	1150	1490	35	17	M6	M6	15225	21750	109	745	1086
L1972.S3529013101650	290	1310	1650	35	17	M6	M6	15225	21750	109	745	1086
L1972.S3537003500770	370	350	770	35	17	M6	M6	19425	27750	140	1206	1720
L1972.S3537004300850	370	430	850	35	17	M6	M6	19425	27750	140	1206	1720
L1972.S3537005100930	370	510	930	35	17	M6	M6	19425	27750	140	1206	1720
L1972.S3537005901010	370	590	1010	35	17	M6	M6	19425	27750	140	1206	1720
L1972.S3537007501170	370	750	1170	35	17	M6	M6	19425	27750	140	1206	1720
L1972.S3537009101330	370	910	1330	35	17	M6	M6	19425	27750	140	1206	1720
L1972.S3537010701490	370	1070	1490	35	17	M6	M6	19425	27750	140	1206	1720
L1972.S3537012301650	370	1230	1650	35	17	M6	M6	19425	27750	140	1206	1720
L1972.S354500430930	450	430	930	35	17	M6	M6	23625	33750	169	1783	2541
L1972.S3545005101010	450	510	1010	35	17	M6	M6	23625	33750	169	1783	2541
L1972.S3545006701170	450	670	1170	35	17	M6	M6	23625	33750	169	1783	2541
L1972.S3545008301330	450	830	1330	35	17	M6	M6	23625	33750	169	1783	2541
L1972.S3545009901490	450	990	1490	35	17	M6	M6	23625	33750	169	1783	2541
L1972.S3545011501650	450	1150	1650	35	17	M6	M6	23625	33750	169	1783	2541
L1972.S3545013101810	450	1310	1810	35	17	M6	M6	23625	33750	169	1783	2541
L1972.S3553005901170	530	590	1170	35	17	M6	M6	27825	39750	198.5	2469	3521
L1972.S3553007501330	530	750	1330	35	17	M6	M6	27825	39750	198.5	2469	3521
L1972.S3553009101490	530	910	1490	35	17	M6	M6	27825	39750	198.5	2469	3521
L1972.S3553010701650	530	1070	1650	35	17	M6	M6	27825	39750	198.5	2469	3521
L1972.S3553012301810	530	1230	1810	35	17	M6	M6	27825	39750	198.5	2469	3521
L1972.S3561006701330	610	670	1330	35	17	M6	M6	32025	45750	229	3268	4663
L1972.S3561008301490	610	830	1490	35	17	M6	M6	32025	45750	229	3268	4663
L1972.S3561009901650	610	990	1650	35	17	M6	M6	32025	45750	229	3268	4663
L1972.S3561011501810	610	1150	1810	35	17	M6	M6	32025	45750	229	3268	4663

Order No.	l_4	l_5	Holes/ slider	l_6	l_7	l_8	h_2	w_2	w_3	R
L1972.S3513001100290	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513001900370	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513002700450	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513003500530	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513004300610	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513005100690	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513005900770	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513006700850	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513007500930	25	80	2	25	80	25	15.8	16	10	2
L1972.S3513008301010	25	80	2	25	80	25	15.8	16	10	2
L1972.S3521001900450	25	80	3	25	80	25	15.8	16	10	2
L1972.S3521002700530	25	80	3	25	80	25	15.8	16	10	2
L1972.S3521003500610	25	80	3	25	80	25	15.8	16	10	2
L1972.S3521004300690	25	80	3	25	80	25	15.8	16	10	2
L1972.S3521005100770	25	80	3	25	80	25	15.8	16	10	2
L1972.S3521005900850	25	80	3	25	80	25	15.8	16	10	2
L1972.S3521006700930	25	80	3	25	80	25	15.8	16	10	2
L1972.S3521007501010	25	80	3	25	80	25	15.8	16	10	2
L1972.S3521009101170	25	80	3	25	80	25	15.8	16	10	2



Easy Slide- Size 35



Long Linear
Rails

Order No.	l ₄	l ₅	Holes/ slider	l ₆	l ₇	l ₈	h ₂	w ₂	w ₃	R
L1972.S35210107 01330	25	80	3	25	80	25	15.8	16	10	2
L1972.S35210123 01490	25	80	3	25	80	25	15.8	16	10	2
L1972.S35290027 00610	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290035 00690	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290043 00770	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290051 00850	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290059 00930	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290067 01010	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290083 01170	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290099 01330	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290115 01490	25	80	4	25	80	25	15.8	16	10	2
L1972.S35290131 01650	25	80	4	25	80	25	15.8	16	10	2
L1972.S35370035 00770	25	80	5	25	80	25	15.8	16	10	2
L1972.S35370043 00850	25	80	5	25	80	25	15.8	16	10	2
L1972.S35370051 00930	25	80	5	25	80	25	15.8	16	10	2
L1972.S35370059 01010	25	80	5	25	80	25	15.8	16	10	2
L1972.S35370075 01170	25	80	5	25	80	25	15.8	16	10	2
L1972.S35370091 01330	25	80	5	25	80	25	15.8	16	10	2
L1972.S35370107 01490	25	80	5	25	80	25	15.8	16	10	2
L1972.S35370123 01650	25	80	5	25	80	25	15.8	16	10	2
L1972.S35450043 0930	25	80	6	25	80	25	15.8	16	10	2
L1972.S35450051 01010	25	80	6	25	80	25	15.8	16	10	2
L1972.S35450067 01170	25	80	6	25	80	25	15.8	16	10	2
L1972.S35450083 01330	25	80	6	25	80	25	15.8	16	10	2
L1972.S35450099 01490	25	80	6	25	80	25	15.8	16	10	2
L1972.S35450115 01650	25	80	6	25	80	25	15.8	16	10	2
L1972.S35450131 01810	25	80	6	25	80	25	15.8	16	10	2
L1972.S35530059 01170	25	80	7	25	80	25	15.8	16	10	2
L1972.S35530075 01330	25	80	7	25	80	25	15.8	16	10	2
L1972.S35530091 01490	25	80	7	25	80	25	15.8	16	10	2
L1972.S35530107 01650	25	80	7	25	80	25	15.8	16	10	2
L1972.S35530123 01810	25	80	7	25	80	25	15.8	16	10	2
L1972.S35610067 01330	25	80	8	25	80	25	15.8	16	10	2
L1972.S35610083 01490	25	80	8	25	80	25	15.8	16	10	2

LONG LINEAR RAILS

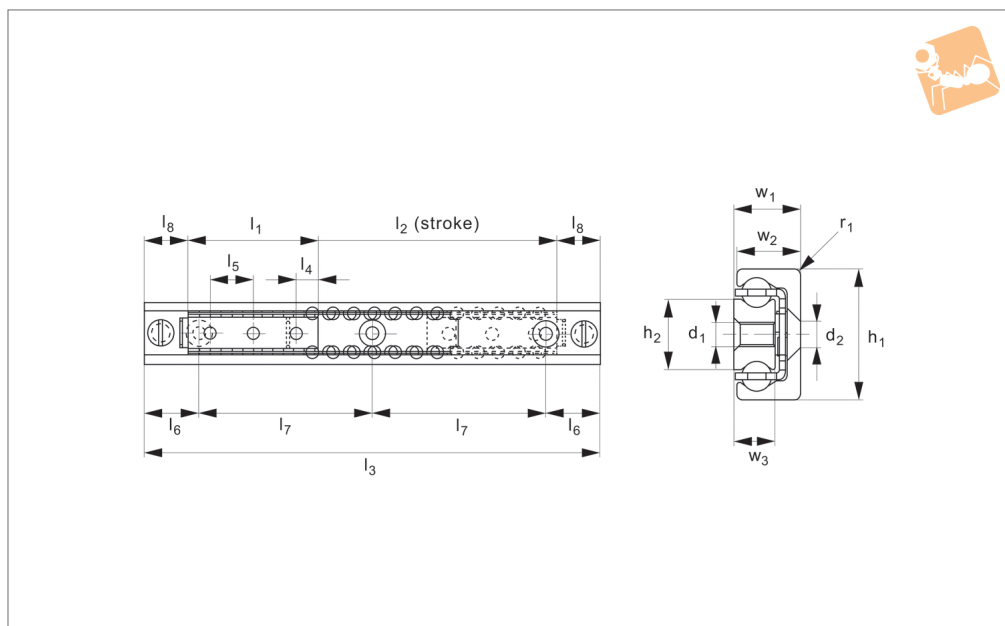


Order No.	l_4	l_5	Holes/ slider	l_6	l_7	l_8	h_2	w_2	w_3	R
L1972.S35610099 01650	25	80	8	25	80	25	15.8	16	10	2
L1972.S35610115 01810	25	80	8	25	80	25	15.8	16	10	2



Easy Slide - Size 43

Long Linear Rails



L1972.43

LONG LINEAR RAILS

Material

Cold drawn steel, zinc plated (excluding raceways). Induction hardened raceways. High precision, bearing steel balls with steel cages.

(less than 0,01). Speeds up to 0,8 m/s. To ensure all fixing holes in the rail are accessible l_1 must be $< (l_3 / 2) - (2 \times l_8)$. To ensure proper smooth movement the stroke, l_2 must be $< 7 \times l_1$. Rail weight: 2,6 Kg/m.

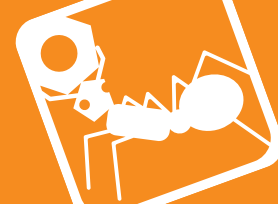
Tips

Must be mounted to a rigid structure. Stroke end stops must be fitted. Only to be used for horizontal movements.

Technical Notes

Smooth movement, with very little friction

Order No.	l_1	l_2	l_3	h_1	w_1	d_1	d_2 for	Load C_{0ax} N max.	Load C_{0rad} N max.	M_x Nm	M_y Nm	M_z Nm
L1972.S4313001100290	130	110	290	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313001900370	130	190	370	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313002700450	130	270	450	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313003500530	130	350	530	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313004300610	130	430	610	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313005100690	130	510	690	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313005900770	130	590	770	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313006700850	130	670	850	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313007500930	130	750	930	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4313008301010	130	830	1010	43	22	M8	M8	9737	13910	99.5	215	301
L1972.S4321001900450	210	190	450	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321002700530	210	270	530	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321003500610	210	350	610	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321004300690	210	430	690	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321005100770	210	510	770	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321005900850	210	590	850	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321006700930	210	670	930	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321007501010	210	750	1010	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321009101170	210	910	1170	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321010701330	210	1070	1330	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321012301490	210	1230	1490	43	22	M8	M8	15729	22470	157	552	786
L1972.S4321013901650	210	1390	1650	43	22	M8	M8	15729	22470	157	552	786
L1972.S4329002700610	290	270	610	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329003500690	290	350	690	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329004300770	290	430	770	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329005100850	290	510	850	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329005900930	290	590	930	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329006701010	290	670	1010	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329008301170	290	830	1170	43	22	M8	M8	21721	31030	217	1053	1500



Order No.	l_1	l_2	l_3	h_1	w_1	d_1	d_2 for	Load C_{0ax} N max.	Load C_{0rad} N max.	M_x Nm	M_y Nm	M_z Nm
L1972.S4329009901330	290	990	1330	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329011501490	290	1150	1490	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329013101650	290	1310	1650	43	22	M8	M8	21721	31030	217	1053	1500
L1972.S4329014701810	290	1470	1810	25	22	M8	M8	21721	31030	217	1053	1500
L1972.S4337003500770	370	350	770	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4337004300850	370	430	850	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4337005100930	370	510	930	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4337005901010	370	590	1010	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4337007501170	370	750	1170	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4337009101330	370	910	1330	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4337010701490	370	1070	1490	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4337012301650	370	1230	1650	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4337013901810	370	1390	1810	43	22	M8	M8	27713	39590	275	1712	2441
L1972.S4345004300930	450	430	930	43	22	M8	M8	33705	48150	334.5	2531	3611
L1972.S4345005101010	450	510	1010	43	22	M8	M8	33705	48150	334.5	2531	3611
L1972.S4345006701170	450	670	1170	43	22	M8	M8	33705	48150	334.5	2531	3611
L1972.S4345008301330	450	830	1330	43	22	M8	M8	33705	48150	334.5	2531	3611
L1972.S4345009901490	450	990	1490	43	22	M8	M8	33705	48150	334.5	2531	3611
L1972.S4345011501650	450	1150	1650	43	22	M8	M8	33705	48150	334.5	2531	3611
L1972.S4345013101810	450	1310	1810	43	22	M8	M8	33705	48150	334.5	2531	3611
L1972.S4345014701970	450	1470	1970	43	22	M8	M8	33705	48150	334.5	2531	3611
L1972.S4353005901170	530	590	1170	43	22	M8	M8	39697	56710	392	3511	5009
L1972.S4353007501330	530	750	1330	43	22	M8	M8	39697	56710	392	3511	5009
L1972.S4353009101490	530	910	1490	43	22	M8	M8	39697	56710	392	3511	5009
L1972.S4353010701650	530	1070	1650	43	22	M8	M8	39697	56710	392	3511	5009
L1972.S4353012301810	530	1230	1810	43	22	M8	M8	39697	56710	392	3511	5009
L1972.S4353013901970	530	1390	1970	43	22	M8	M8	39697	56710	392	3511	5009
L1972.S4361006701330	610	670	1330	43	22	M8	M8	45689	65270	452	4650	6636
L1972.S4361008301490	610	830	1490	43	22	M8	M8	45689	65270	452	4650	6636
L1972.S4361009901650	610	990	1650	43	22	M8	M8	45689	65270	452	4650	6636
L1972.S4361011501810	610	1150	1810	43	22	M8	M8	45689	65270	452	4650	6636
L1972.S4361013101970	610	1310	1970	43	22	M8	M8	45689	65270	452	4650	6636

Order No.	l_4	l_5	Holes/ slider	l_6	l_7	l_8	h_2	w_2	w_3	R
L1972.S4313001100290	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313001900370	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313002700450	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313003500530	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313004300610	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313005100690	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313005900770	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313006700850	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313007500930	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4313008301010	25	80	2	25	80	25	23	21	13.5	2.5
L1972.S4321001900450	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S4321002700530	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S4321003500610	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S4321004300690	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S4321005100770	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S4321005900850	25	80	3	25	80	25	23	21	13.5	2.5



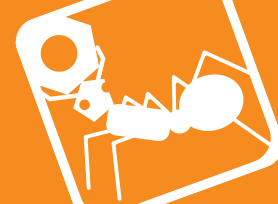
Easy Slide - Size 43



Long Linear
Rails

Order No.	l ₄	l ₅	Holes/ slider	l ₆	l ₇	l ₈	h ₂	w ₂	w ₃	R
L1972.S43210067 00930	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S43210075 01010	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S43210091 01170	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S43210107 01330	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S43210123 01490	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S43210139 01650	25	80	3	25	80	25	23	21	13.5	2.5
L1972.S43290027 00610	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290035 00690	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290043 00770	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290051 00850	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290059 00930	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290067 01010	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290083 01170	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290099 01330	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290115 01490	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290131 01650	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43290147 01810	25	80	4	25	80	25	23	21	13.5	2.5
L1972.S43370035 00770	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43370043 00850	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43370051 00930	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43370059 01010	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43370075 01170	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43370091 01330	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43370107 01490	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43370123 01650	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43370139 01810	25	80	5	25	80	25	23	21	13.5	2.5
L1972.S43450043 00930	25	80	6	25	80	25	23	21	13.5	2.5
L1972.S43450051 01010	25	80	6	25	80	25	23	21	13.5	2.5
L1972.S43450067 01170	25	80	6	25	80	25	23	21	13.5	2.5
L1972.S43450083 01330	25	80	6	25	80	25	23	21	13.5	2.5
L1972.S43450099 01490	25	80	6	25	80	25	23	21	13.5	2.5
L1972.S43450115 01650	25	80	6	25	80	25	23	21	13.5	2.5
L1972.S43450131 01810	25	80	6	25	80	25	23	21	13.5	2.5
L1972.S43450147 01970	25	80	6	25	80	25	23	21	13.5	2.5

LONG LINEAR RAILS

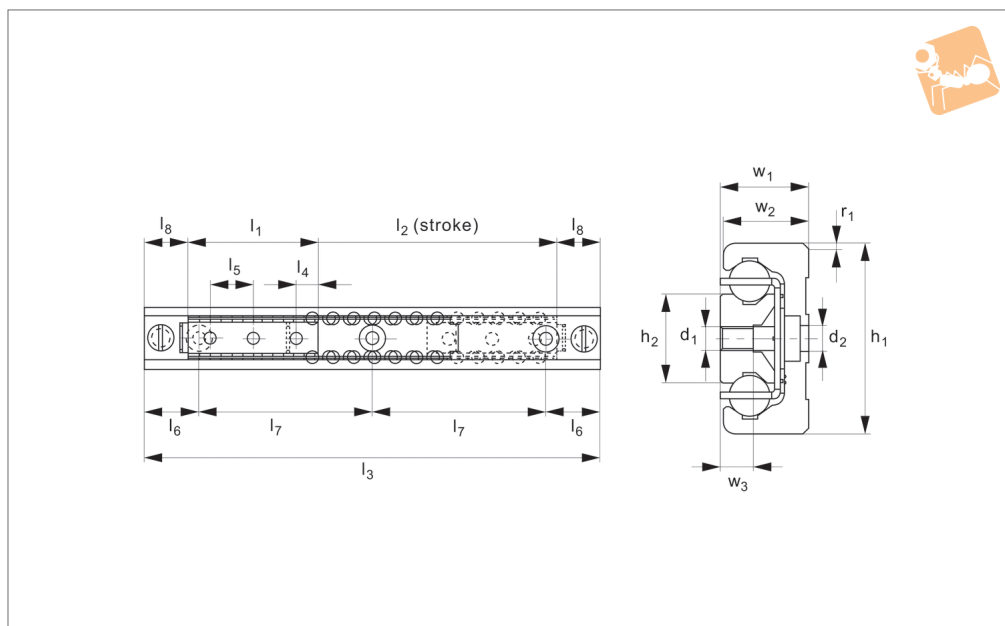


Order No.	l ₄	l ₅	Holes/ slider	l ₆	l ₇	l ₈	h ₂	w ₂	w ₃	R
L1972.S43530059 01170	25	80	7	25	80	25	23	21	13.5	2.5
L1972.S43530075 01330	25	80	7	25	80	25	23	21	13.5	2.5
L1972.S43530091 01490	25	80	7	25	80	25	23	21	13.5	2.5
L1972.S43530107 01650	25	80	7	25	80	25	23	21	13.5	2.5
L1972.S43530123 01810	25	80	7	25	80	25	23	21	13.5	2.5
L1972.S43530139 01970	25	80	7	25	80	25	23	21	13.5	2.5
L1972.S43610067 01330	25	80	8	25	80	25	23	21	13.5	2.5
L1972.S43610083 01490	25	80	8	25	80	25	23	21	13.5	2.5
L1972.S43610099 01650	25	80	8	25	80	25	23	21	13.5	2.5
L1972.S43610115 01810	25	80	8	25	80	25	23	21	13.5	2.5
L1972.S43610131 01970	25	80	8	25	80	25	23	21	13.5	2.5



Easy Slide - Size 63

Long Linear Rails



L1972.63

LONG LINEAR RAILS

Material

Cold drawn steel, zinc plated (excluding raceways). Induction hardened raceways. High precision, bearing steel balls with steel cages.

accessible l_1 must be $< (l_3 / 2) - (2 \times l_8)$. To ensure proper smooth movement the stroke, l_2 must be $< \times l_1$.

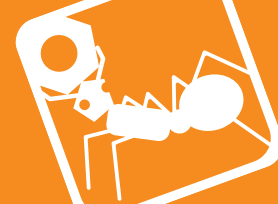
Tips

Must be mounted to a rigid structure.
Stroke end stops must be fitted.
Only to be used for horizontal movements.

Technical Notes

To ensure all fixing holes in the rail are

Order No.	l_1	l_2	l_3	h_1	w_1	d_1	Load C_{0ax} N max.	Load C_{0rad} N max.	M_x Nm	M_y Nm	M_z Nm	l_4
L1972SN6313004000610	130	400	610	63	29	M8	18200	26000	238,8	394	563	25
L1972SN6313004800690	130	480	690	63	29	M8	18200	26000	238,8	394	563	25
L1972SN6313005600770	130	560	770	63	29	M8	18200	26000	238,8	394	563	25
L1972SN6313006400850	130	640	850	63	29	M8	18200	26000	238,8	394	563	25
L1972SN6313007200930	130	720	930	63	29	M8	18200	26000	238,8	394	563	25
L1972SN6313008001010	130	800	1010	63	29	M8	18200	26000	238,8	394	563	25
L1972SN6321003200610	210	320	610	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321004000690	210	400	690	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321004800770	210	480	770	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321005600850	210	560	850	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321006400930	210	640	930	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321007201010	210	720	1010	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321008801170	210	880	1170	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321010401330	210	1040	1330	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321012001490	210	1200	1490	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6321013601650	210	1360	1650	63	29	M8	29400	42000	385,8	1029	1470	25
L1972SN6329002400610	290	240	610	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329003200690	290	320	690	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329004000770	290	400	770	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329004800850	290	480	850	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329005600930	290	560	930	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329006401010	290	640	1010	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329008001170	290	800	1170	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329009601330	290	960	1330	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329011201490	290	1120	1490	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6329012801650	290	1280	1650	63	29	M8	40600	58000	532,8	1962	2803	25
L1972SN6337003200770	370	320	770	63	29	M8	51800	74000	679,8	3194	4563	25
L1972SN6337004000850	370	400	850	63	29	M8	51800	74000	679,8	3194	4563	25
L1972SN6337004800930	370	480	930	63	29	M8	51800	74000	679,8	3194	4563	25



Order No.	l_1	l_2	l_3	h_1	w_1	d_1	Load C_{0ax} N max.	Load C_{0rad} N max.	M_x Nm	M_y Nm	M_z Nm	l_4
L1972SN6337005601010	370	560	1010	63	29	M8	74000	74000	679,8	3194	4563	25
L1972SN6337007201170	370	720	1170	63	29	M8	51800	74000	679,8	3194	4563	25
L1972SN6337008801330	370	880	1330	63	29	M8	51800	74000	679,8	3194	4563	25
L1972SN6337010401490	370	1040	1490	63	29	M8	51800	74000	679,8	3194	4563	25
L1972SN6337012001650	370	1200	1650	63	29	M8	51800	74000	679,8	3194	4563	25
L1972SN6337013601810	370	1360	1810	63	29	M8	51800	74000	679,8	3194	4563	25
L1972SN6345004000930	450	400	930	63	29	M8	63000	90000	826,7	4725	6750	25
L1972SN6345004801010	450	480	1010	63	29	M8	63000	90000	826,7	4725	6750	25
L1972SN6345006401170	450	640	1170	63	29	M8	63000	90000	826,7	4725	6750	25
L1972SN6345008001330	450	800	1330	63	29	M8	63000	90000	826,7	4725	6750	25
L1972SN6345009601490	450	960	1490	63	29	M8	63000	90000	826,7	4725	6750	25
L1972SN6345011201650	450	1120	1650	63	29	M8	63000	90000	826,7	4725	6750	25
L1972SN6345012801810	450	1280	1810	63	29	M8	63000	90000	826,7	4725	6750	25
L1972SN6353005601170	530	560	1170	63	29	M8	74200	106000	937,7	6554	9363	25
L1972SN6353007201330	530	720	1330	63	29	M8	74200	106000	937,7	6554	9363	25
L1972SN6353008801490	530	880	1490	63	29	M8	74200	106000	937,7	6554	9363	25
L1972SN6353010401650	530	1040	1650	63	29	M8	74200	106000	937,7	6554	9363	25
L1972SN6353012001810	530	1200	1810	63	29	M8	74200	106000	937,7	6554	9363	25
L1972SN6353013601970	530	1360	1970	63	29	M8	74200	106000	937,7	6554	74200	25
L1972SN6361006401330	610	640	1330	63	29	M8	85400	122000	1120,7	8682	12403	25
L1972SN6361008001490	610	800	1490	63	29	M8	85400	122000	1120,7	8682	12403	25
L1972SN6361009601650	610	960	1650	63	29	M8	85400	122000	1120,7	8682	12403	25
L1972SN6361011201810	610	1120	1810	63	29	M8	85400	122000	1120,7	8682	12403	25
L1972SN6361012801970	610	1280	1970	63	29	M8	85400	122000	1120,7	8682	12403	25

Order No.	l_5	Holes/ slider	l_6	l_7	l_8	h_2	w_2	w_3	R
L1972SN6313004000610	80	2	25	80	40	29.3	28	10.5	2 x 45
L1972SN6313004800690	80	2	25	80	40	29.3	28	10.5	2 x 45
L1972SN6313005600770	80	2	25	80	40	29.3	28	10.5	2 x 45
L1972SN6313006400850	80	2	25	80	40	29.3	28	10.5	2 x 45
L1972SN6313007200930	80	2	25	80	40	29.3	28	10.5	2 x 45
L1972SN6313008001010	80	2	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321003200610	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321004000690	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321004800770	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321005600850	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321006400930	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321007201010	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321008001170	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321010401330	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321012001490	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6321013601650	80	3	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329002400610	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329003200690	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329004000770	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329004800850	80	4	25	80	40	29.3	28	10.5	2 x 45



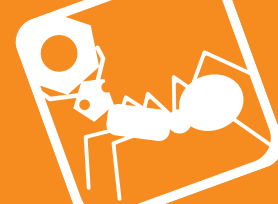
Easy Slide - Size 63



Long Linear
Rails

Order No.	l ₅	Holes/ slider	l ₆	l ₇	l ₈	h ₂	w ₂	w ₃	R
L1972SN6329005 600930	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329006 401010	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329008 001170	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329009 601330	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329011 201490	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6329012 801650	80	4	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337003 200770	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337004 000850	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337004 800930	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337005 601010	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337007 201170	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337008 801330	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337010 401490	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337012 001650	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6337013 601810	80	5	25	80	40	29.3	28	10.5	2 x 45
L1972SN6345004 000930	80	6	25	80	40	29.3	28	10.5	2 x 45
L1972SN6345004 801010	80	6	25	80	40	29.3	28	10.5	2 x 45
L1972SN6345006 401170	80	6	25	80	40	29.3	28	10.5	2 x 45
L1972SN6345008 001330	80	6	25	80	40	29.3	28	10.5	2 x 45
L1972SN6345009 601490	80	6	25	80	40	29.3	28	10.5	2 x 45
L1972SN6345011 201650	80	6	25	80	40	29.3	28	10.5	2 x 45
L1972SN6345012 801810	80	6	25	80	40	29.3	28	10.5	2 x 45
L1972SN6353005 601170	80	7	25	80	40	29.3	28	10.5	2 x 45
L1972SN6353007 201330	80	7	25	80	40	29.3	28	10.5	2 x 45
L1972SN6353008 801490	80	7	25	80	40	29.3	28	10.5	2 x 45
L1972SN6353010 401650	80	7	25	80	40	29.3	28	10.5	2 x 45
L1972SN6353012 001810	80	7	25	80	40	29.3	28	10.5	2 x 45
L1972SN6353013 601970	80	7	25	80	40	29.3	28	10.5	2 x 45
L1972SN6361006 401330	80	8	25	80	40	29.3	28	10.5	2 x 45
L1972SN6361008 001490	80	8	25	80	40	29.3	28	10.5	2 x 45
L1972SN6361009 601650	80	8	25	80	40	29.3	28	10.5	2 x 45
L1972SN6361011 201810	80	8	25	80	40	29.3	28	10.5	2 x 45
L1972SN6361012 801970	80	8	25	80	40	29.3	28	10.5	2 x 45

LONG LINEAR RAILS



Specifications

- Available rail widths: 22, 28, 35, 43mm.
- Induction hardened raceways.
- Maximum rail length 1970mm.
- Rails and sliders made of cold-drawn steel.
- Balls made of hardened steel.
- Maximum operating speed 0,8 m/s.
- Temperature range -30°C to +140°C.
- Coefficient of friction ~ 0.01
- Electrolytic zinc-plating to ISO 2081; increased anti-corrosion protection and stainless steel balls on request.
- Linear accuracy 0,1mm/m stroke.
- For horizontal installation only.
- External end stops must be used.
- Fixing screws of class 10,9 must be used for all linear bearings.

Applications



Food, drink & pharmaceuticals

Food handling conveyors
pharmaceutical factories
stainless display equipment



Special purpose & packaging machines

Precision positioning systems
handling units • robotic systems
cutting machines



Logistics solutions

Container extensions
heavy duty extending systems
sliding doors



Construction

Seating
sliding panels



Transport (automotive)

Ambulance sliding systems
fire fighting vehicles
sliding panels



Transport (rail)

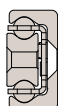
Seat adjustment
sliding doors
battery removal units



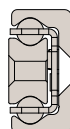
Medical technology

X-ray equipment
dental chairs
bed extensions

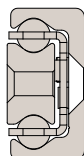
Rail Sizes



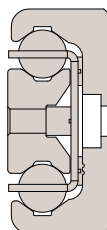
Size 28



Size 35



Size 43



Size 63

Anti-corrosion treatments

The telescopic slides have a standard electrolytic zinc plated coating (to ISO 2081).

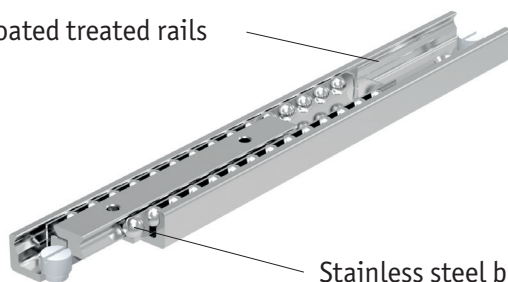
We offer a number of alternatives to increase the anti-corrosion protection including nickel plating.

However, our preferred and most effective solution to inhibit corrosion is to apply a special corrosion resistant (ATCoat) plating to the rails and sliders and to combine this with stainless steel ball bearings.

This coating is applied after the zinc plating process and is a special trivalent chromium passivation that is approximately 4 microns thick (and is free of Chromium VI).

This applies a nano-particle coating and has extremely good results of 200 hours in salt spray tests before any signs of white rust.

ATCoated treated rails



Stainless steel balls (440C)

Use with stainless steel fixing screws, strength class 10,9

Salt Spray Test (to DIN EN ISO 9227 NSS)



ATCoated after 720 hours salt spray



Chemical nickel plating after 360 hours

Testing conducted by independent institute

The corrosion resistant alloy coating on the telescopic slides is a soft coating and will (over time) wear off the raceways (which are subject to loads from the ball bearings) – this can be seen sometimes by a thin line on the raceways.

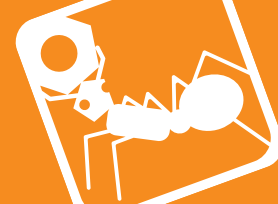
However, lubricating the raceways with grease (as recommended) ensures, as far as possible, the good corrosion properties of the overall coating.

This coating is often re-applied to linear guides and telescopic pullouts in the food and chemical industries; where they can be exposed to corrosive or aggressive environments.

The ATCoat has received USDA approved and also EU approved No.1935/2004 for use in the food industry.

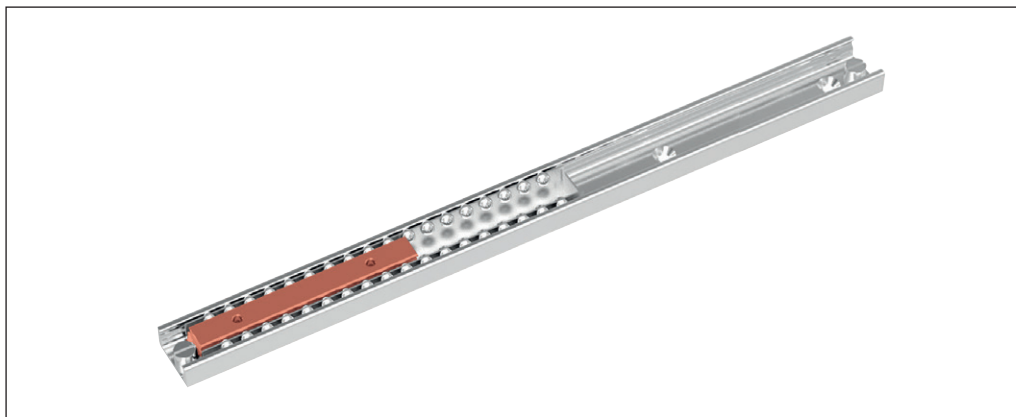
Easy Slide Rails from Automation Components

LONG LINEAR RAILS



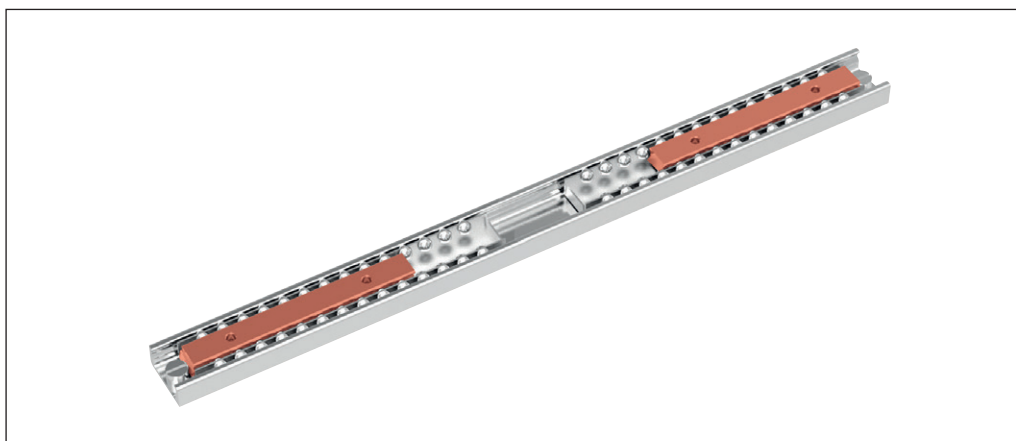
Single sliders

L1972 - This linear bearing consists of a guide rail and a slider that runs within the ball cage in the guide rail. High load capacities, compact cross-sections and simple and easy mounting characterise the series. Slider lengths can vary here as well and then form a total unit, which implements the required stroke.



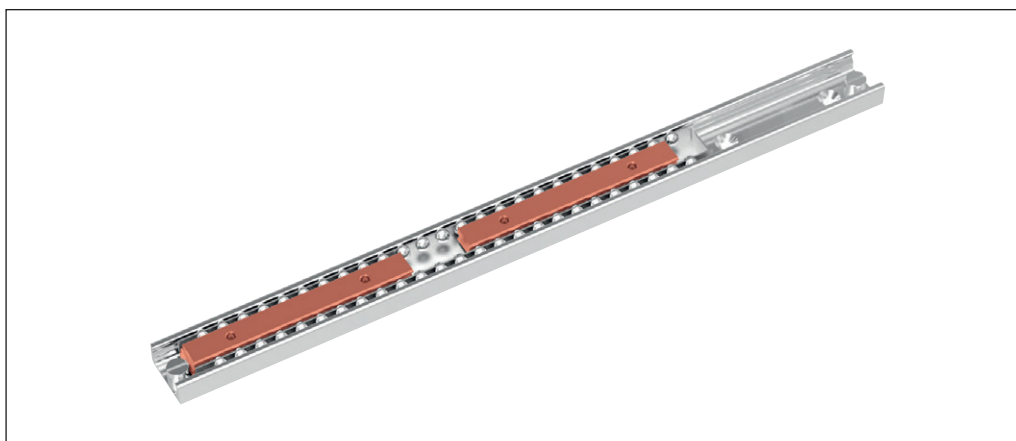
Multiple independent sliders

L1972.MI - Variant with several sliders, which each runs in its own ball cage, independently of each other, in the guide rail. Slider length and stroke for each slider can be different within one rail.

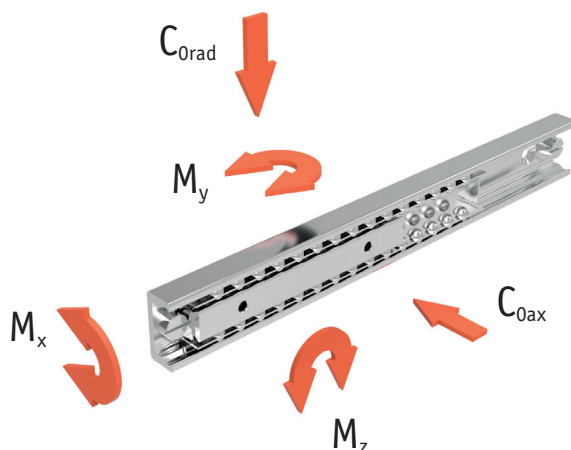
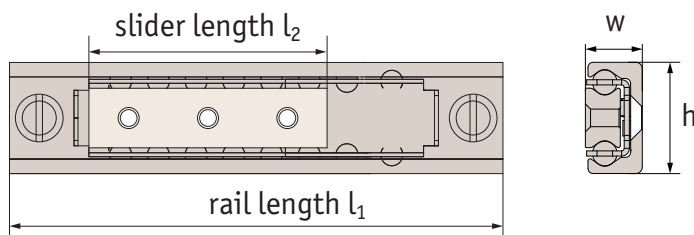


Multiple synchronised sliders

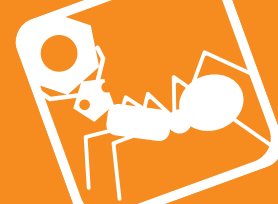
L1972.MS - Several sliders run in a common ball cage within the guide rails. The slider lengths can vary here as well and then form a total unit, which implements the required stroke.



Easy Slide Rails from Automation Components



Rail Sizes h	Slider Length l_2	Width w	Maximum loads:				
			C_{0rad} N	C_{0ax} N	M_x Nm	M_y Nm	M_z Nm
28	60	13	3480	2436	17,1	24	35
	80		4640	3248	22,7	43	62
	130		7540	5278	36,9	114	163
	210		12180	8526	59,7	298	426
	290		16820	11774	82,4	569	813
	370		21460	15022	105,1	926	1323
	450		26100	18270	127,9	1370	1958



Rail Sizes h	Slider Length l_2	Width w	Maximum loads:				
			C_{0rad} N	C_{0ax} N	M_x Nm	M_y Nm	M_z Nm
35	130	17	9750	6825	47,2	148	211
	210		15750	11025	76,3	386	551
	290		21750	15225	105,3	736	1051
	370		27750	19425	134,4	1198	1711
	450		33750	23625	163,4	1772	2531
	530		39750	27825	192,5	2458	3511
	610		45750	32025	221,6	3256	4651
43	130	22	13910	9737	96,0	211	301
	210		22470	15729	155,1	551	786
	290		31030	21721	214,1	1050	1500
	370		39590	27713	273,2	1709	2441
	450		48150	33705	332,3	2528	3611
	530		56710	39697	391,4	3507	5009
	610		65270	45689	450,4	4645	6636

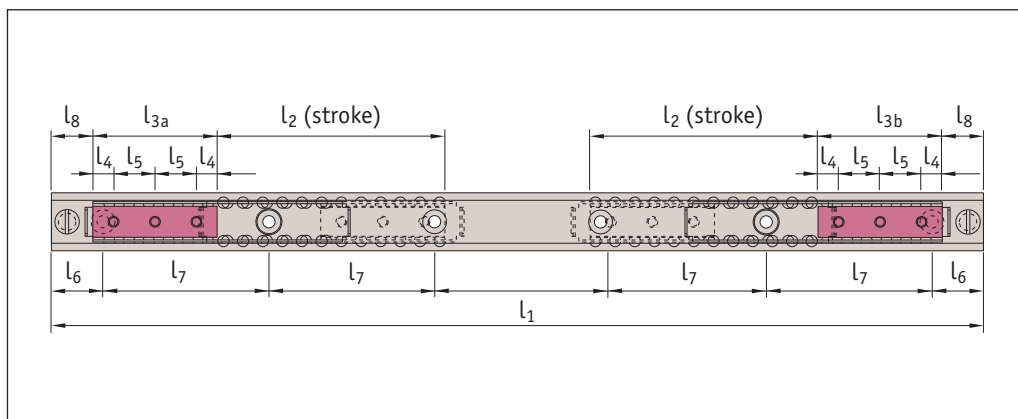
Easy Slide Rails from Automation Components

LONG LINEAR RAILS

Technical Information

Multiple independent sliders

Easy Slide
Rails



Technical Notes

Easy Slide with several independent sliders. The total load capacity is based on the number of sliders in the rail and their length.

The length and stroke of the individual sliders can be different.

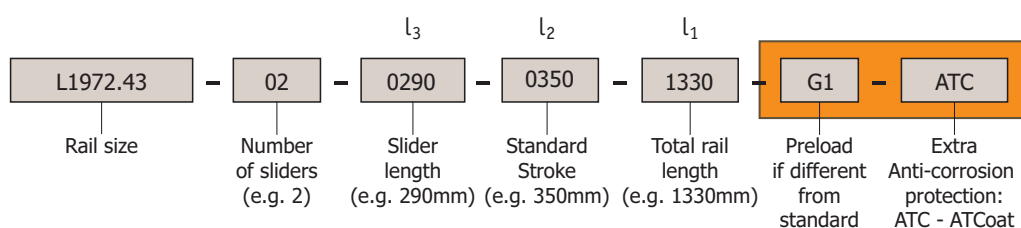
Tips

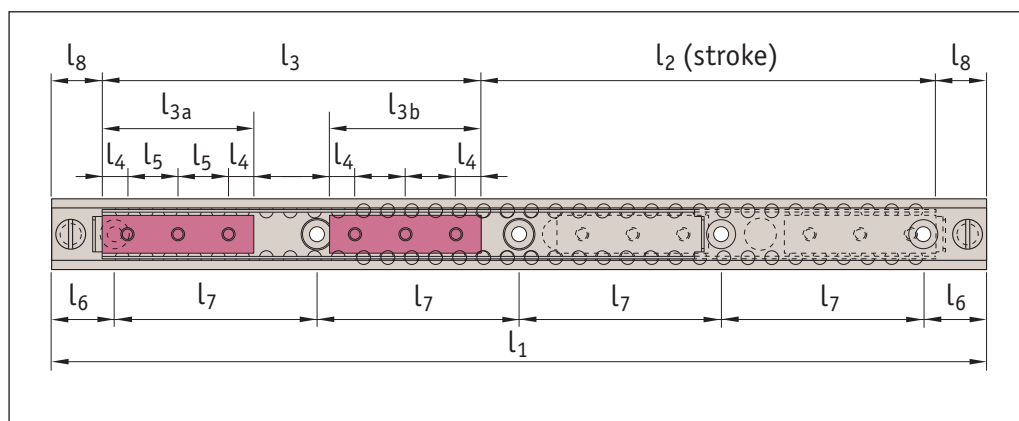
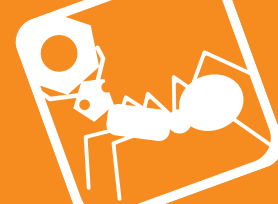
To ensure proper smooth movement, the stroke must be $\leq 7 \times$ slider length.

For full rail sizing see individual product pages L1972.SN22, SN28, SN38, SN43, SN63.

$$\text{Rail Length } l_1 = [2 \times (l_3 + l_2) + (2 \times l_8)]$$

Ordering Example





Technical Notes

Easy Slide with several independent sliders. The total load capacity is based on the number of slides in the rail and their length.

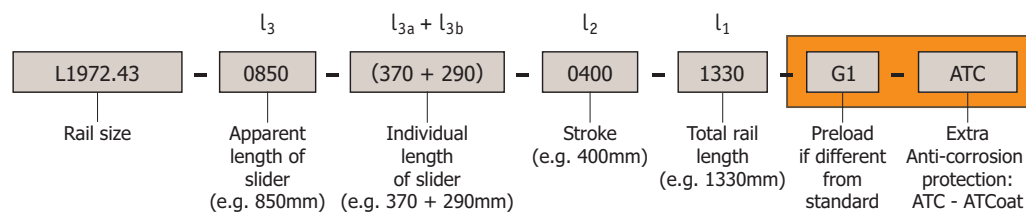
The length and stroke of the individual sliders can be different.

Tips

To ensure proper smooth movement, the stroke must be $\leq 7 \times$ slider length.

For full rail sizing see individual product pages L1972.SN22, SN28, SN38, SN43, SN63.

Ordering Example



Static load

The maximum static loads of the L1972 series are defined by the slider lengths. These load capacities are valid for a loading point of forces and moments in the centre of the slider. The load capacities are independent of the position of the sliders inside the rails.

The radial load capacity, C_{0rad} , axial load capacity, C_{0ax} , and moments loads M_x , M_y and M_z indicate the maximum permissible values of the loads.

Higher loads adversely affect the running properties and the mechanical strength.

A safety factor, S_0 , is used to check the static load, which takes into account the basic parameters of the application.

Conditions	Safety factor S_0
Neither shocks nor vibrations, smooth and low-frequency reverse; high assembly accuracy; no elastic deformations	1,0 - 1,5
Normal installation conditions	1,5 - 2,0
Shock and vibration, high-frequency reverse; significant elastic deformation	2,0 - 3,5

The ratio of the actual load to maximum permissible load may be as large as the reciprocal of the accepted safety factor, S_0 , at most.

$$\frac{P_{0rad}}{C_{0rad}} \leq \frac{1}{S_0} \quad \left| \quad \frac{P_{0ax}}{C_{0ax}} \leq \frac{1}{S_0} \quad \left| \quad \frac{M_1}{M_x} \leq \frac{1}{S_0} \quad \left| \quad \frac{M_2}{M_y} \leq \frac{1}{S_0} \quad \left| \quad \frac{M_3}{M_z} \leq \frac{1}{S_0} \right. \right. \right.$$

The formulae above apply for a single load case. If there are two or more of the described forces simultaneously, the following check must be made:

$$\frac{P_{0rad}}{C_{0rad}} + \frac{P_{0ax}}{C_{0ax}} + \frac{M_1}{M_x} + \frac{M_2}{M_y} + \frac{M_3}{M_z} \leq \frac{1}{S_0}$$

P_{0rad} = effective radial load

C_{0rad} = permissible radial load

P_{0ax} = effective axial load

C_{0ax} = permissible axial load

M_1 = effective moment in the X-direction

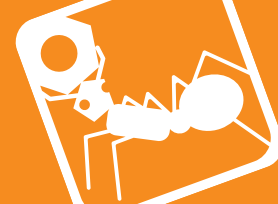
M_x = permissible moment in the X-direction

M_2 = effective moment in the Y-direction

M_y = permissible moment in the Y-direction

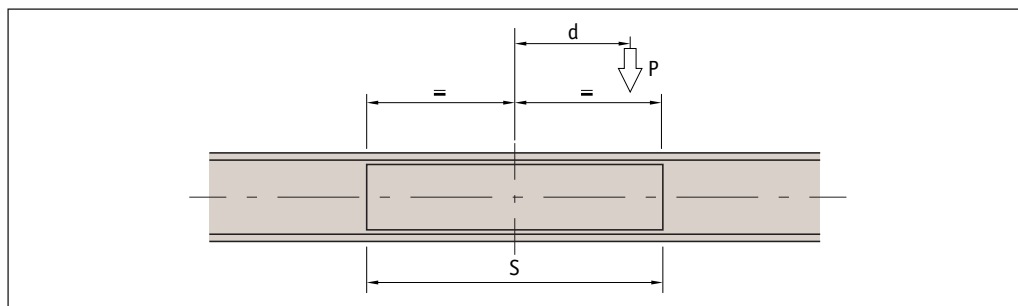
M_3 = effective moment in the Z-direction

M_z = permissible moment in the Z-direction



Off-centre load P of the slider

For an off-centre load of the slider, the different load distribution on the balls must be accounted for with a reduction of the load capacity C. As shown, this reduction of the distance, d, from the loading point is dependent on the slider centre.



The value, q, is the position factor, the distance, d, is expressed in fractions of slider length S. The permissible load, P, decreases as follows:

For a radial load

$$P = q \cdot C_{0rad}$$

For an axial load

$$P = q \cdot C_{0ax}$$

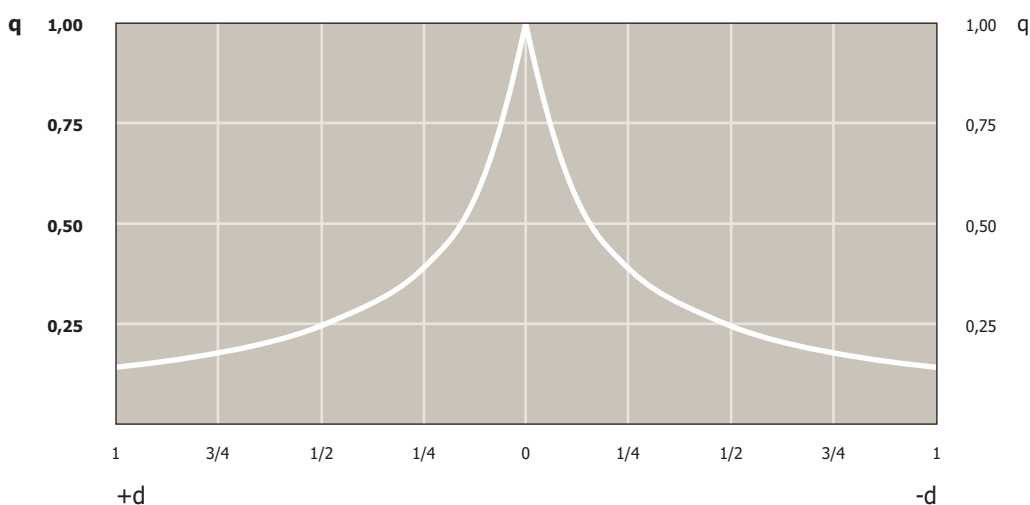
For the static load and the service life calculation, P_{0rad} and P_{0ax} must be replaced by the equivalent values calculated as follows, depending on whether the external load, P, acts:

Radially

$$P_{0rad} = \frac{P}{q}$$

Axially

$$P_{0ax} = \frac{P}{q}$$



Service life

The service life of a linear bearing depends on several factors, such as effective load, operating speed, installation precision, impacts and vibrations, operating temperature, ambient conditions and lubrication. The service life is defined as the time span between initial operation and the first fatigue or wear indications on the raceways.

In practice, the end of the service life must be defined as the time of bearing decommissioning due to its destruction or extreme wear of a component.

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

$$L_{km} = 100 \cdot \left(\frac{C_{0rad}}{W} \cdot \frac{1}{f_i} \right)^3$$

L_{km} = calculated service life (Km)

W = equivalent load (N)

C_{0rad} = load capacity (N)

f_i = application coefficient
(see below)

Application coefficient f_i

Conditions	Application coefficient f_i
No impacts or vibrations, smooth and low-frequency direction change; clean operating conditions; low speeds (<0,5 m/s)	1,0 - 1,5
Slight vibrations, average speeds (0,5 - 0,7 m/s) and average frequency of direction change	1,5 - 2,0
Impacts and vibrations, high speeds (>0,7 m/s) and high-frequency direction change; very dirty environment	2,0 - 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 ($f_i = 1$) amounts to 100Km.

For a single load P , the following applies:

$$W = P$$

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

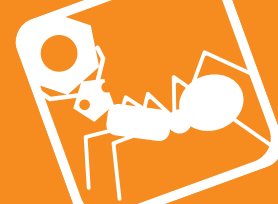
$$W = P_{rad} + \left(\frac{P_{ax}}{C_{0ax}} + \frac{M_1}{M_x} + \frac{M_2}{M_y} + \frac{M_3}{M_z} \right) \cdot C_{0rad}$$

Clearance and Preload

The SN series linear bearings are installed with no clearance as standard. For more information, please contact our Technical Department.

Preload classes		
Increased clearance	No clearance	Increased preload
G_1	Standard	K_1

Easy Slide Rails from Automation Components

**Coefficient of friction**

With correct lubrication and installation on level and rigid surfaces and sufficient parallelism for rail pairs, the friction value is less than or equal to 0,01. This value can vary depending on the installation situation.

Linear accuracy

With installation of the rails using all bolts on a perfectly plane support surface with the fixing holes in a straight line, the linear accuracy of the sliders to an external reference is as follows:

$$\boxed{//} = \frac{\sqrt{H}}{300} \text{ mm}$$

H = stroke

Speed

The linear bearings of the L1972 series can be used up to an operating speed of 0,8 m/s.

With high-frequency direction changes and the resulting high accelerations, as well as with long ball cages, there is a risk of cage creep (see instructions for use).

Temperature

The series can be used in ambient temperatures from -30°C to +170°C. A lithium lubricant for high operating temperatures is recommended for temperatures above +130°C.

Anti-corrosion protection

The L1972 series has a standard anti-corrosion protection (electrolytic zinc-plating to ISO 2081).

If increased anti-corrosion protection is required, the rails are available either with special coatings.

Numerous application-specific surface treatments are available upon request, e.g. as a nickel-plated design with FDA approval for use in the food industry. For more information, please contact our Technical Department.

Lubrication

Recommended lubrication intervals are heavily dependent upon the ambient conditions. Under normal conditions, lubrication is recommended after 100Km operational performance or after an operating period of 6 months.

In critical applications, the interval should be shorter. Please clean the raceways carefully before lubrication. Raceways and spaces of the ball cage are lubricated with a lithium lubricant of average consistency (roller bearing lubricant).

Different lubricants for special applications are available upon request, e.g. lubricant with FDA approval for use in the food industry.

For more information, please contact our Technical Department.

Cage creep

Under normal operating conditions, the cage moves in synchronisation with the carriage slider, but at half its speed; or to put it another way, the ball cage follows the relevant stroke, but travelling half the distance. In unfavourable operating conditions, e.g. fast-changing acceleration or heavy fluctuating strokes, it is not always possible to avoid cage slip from occurring. In this case, you should schedule a no-load stroke, if possible, in order to re-position the cage. If strokes fluctuate, you should also ensure adequate dimensioning of the drive that is used. You can use a friction coefficient of 0.1 for the relevant calculations.

Important note

Only to be used for horizontal movement.

Fixing screws

The rails of the SN series in sizes 22 to 43mm are fixed with countersunk head screws to DIN 7991.

Tightening torques of the standard fixing screws to be used

Rail sizes	Thread size	Property class	Tightening torque Nm
22	M4	10,9	4,3
28	M5		8,5
35	M6		14,6
43	M8		34,7

Installation instructions

Internal stops are used to stop the unloaded slider and the ball cage, these are not designed to stop a moving, loaded slider. Please use external stops for a loaded system.

To achieve optimum running properties, high service life and rigidity, it is necessary to fix the linear bearings with all accessible holes onto a rigid and level surface.

Instructions for use

For linear bearings of the L1972 series, the sliders are guided through a ball cage inside the rails. When the sliders run their course relative to the rails, the ball cage moves along for half the slider stroke. The stroke ends as soon as the slider reaches the end of the cage.

Normally the cage moves synchronously to the balls at half the speed of the slider. Any cage slip negatively affects the synchronous movement of the ball cage, causing it to reach the internal stops prematurely, this reduces the stroke. The stroke value can be normalised at any time by moving the slider to the stop in the stopped cage. This moving of the slider relative to the cage will have increased resistance, which is dependent on the working load.

The causes of "cage slip" can be installation accuracy, dynamics, and load changes. The effects can be minimised by observing the following advice:

- The stroke should always remain constant and come as close as possible to the nominal stroke of the linear bearing.
- For applications with various strokes, make sure that the drive is sufficiently large enough to guarantee a movement of the slider relative to the cage; a coefficient of friction of 0,1 should be calculated for this.
- Another possibility is to include a maximum stroke without load into the working cycle in order to re-synchronise the slider and ball cage.

Parallelism errors or inaccuracies in the installation or in the mounting surfaces of mounted pairs can influence cage creep.

Series L1972 linear bearings should only be used for horizontal movement.