Magnetic Rail Guides

Ironlev linear guides are specifically designed to overcome common problems and to lead industry innovation in terms of lowest guide wear and friction, longest elements lifetime, increased performances in terms of speed and acceleration. The design flexibility given by standard rail and carriage mounting enables extreme design and application flexibility.

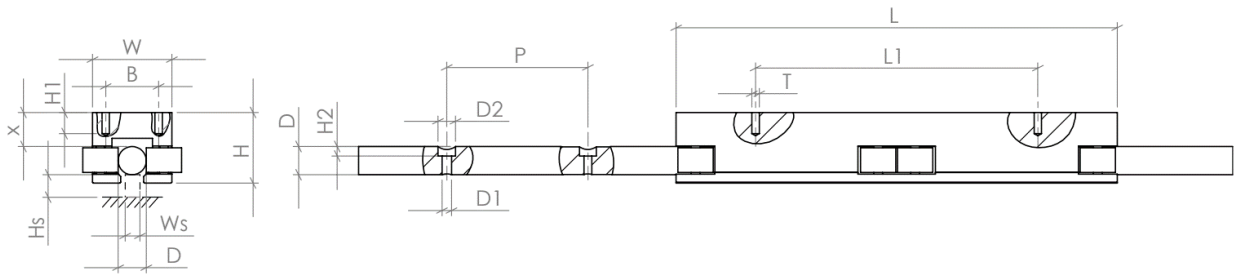
The innovative levitation principle is based on simple material properties and does not need any electrical connection or special arrangement to work, making it a primary candidate for linear applications of any size. Ironlev works both with ground track and suspended tracks configurations, magnetically anchoring the carriage to the rail.

Product lines

- **Endurance:** heavy conditions and high frequency applications. Steel rollers coupled with hardened steel rails.
- **Silent:** maximum smoothness and silence. Plastic rollers coupled with chrome plating rails.

Technical data

Ironlev sliders are available in different sizes and lengths according to specific loads and workspace.



Size		**Length**		**Dimensions**								
D		L	L1	W	H	B	T	H1	D1	D2	H2	P
		mm										
16	XL	250	160	45	40	30	M5	10	5,5	10	8	200
	L	206	116									
	S	86	40									
20	XL	350	260	60	50	45	M6	12	6,6	11	10	300
	L	306	216									
	S	111	60									
30	XL	550	380	90	76	70	M8	16	9	15	15	500
	L	486	316									
	S	136	80									

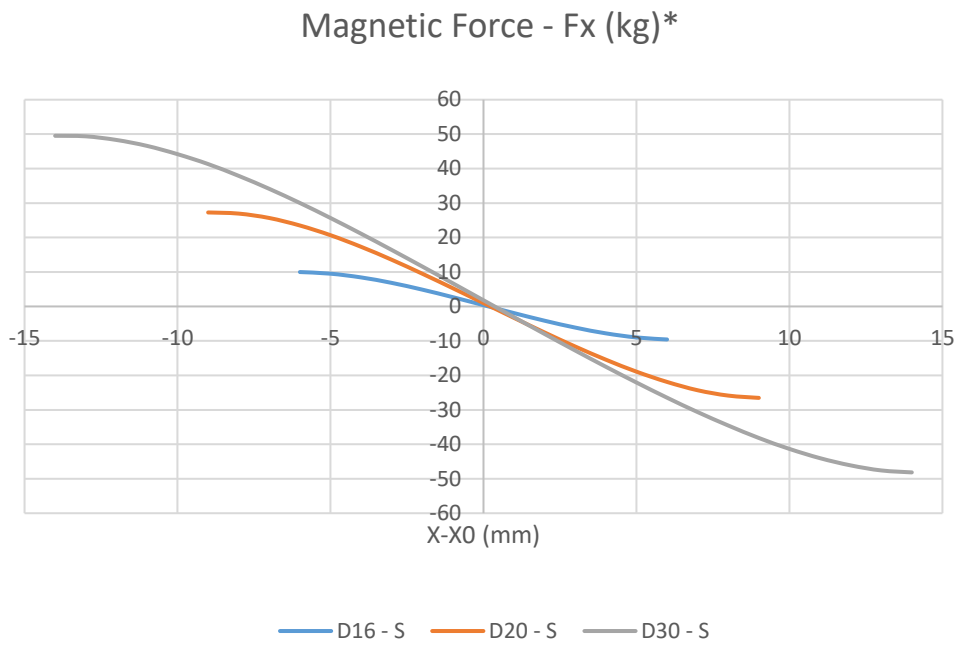
Size		**Weight**			**Max Load**		**Position**		**Rail support**		**Rollers**	**Curves**
D		Slider		Rail	Mag - Fx	Lateral - Fy	X0	Stiffness	HS min	WS max	N	Rmin
		kg	lb	kg/m	kg	kg	mm	N/mm	mm			mm
16	XL	2	5	1,6	38	103	18	63	25	10	8	-
	L	2	4	1,6	38	52	18	63	25	10	4	-
	S	1	2	1,6	10	52	18	16	25	10	4	800
20	XL	5	12	2,5	105	103	23	117	35	12	8	-
	L	5	10	2,5	105	52	23	117	35	12	4	-
	S	2	4	2,5	26	52	23	29	35	12	4	1500
30	XL	20	43	5,5	280	452	39	200	55	20	8	-
	L	17	38	5,5	280	226	39	200	55	20	4	-
	S	5	11	5,5	47	226	39	33	55	20	4	1500

Rail support and curves

Minimum height and maximum width of rail support dimensions are required in order to provide slider integration and correct sliding function. Rail curves must be used only in combination with small length (S) sliders. 8 rollers design (XL) is provided for applications that require rail switching.

Magnetic force curve

Here presented a graph showing the dependence of magnetic force along X-axis related to the vertical displacement X-X0 between Ironlev slider and iron rail.



(*): Magnetic force is related to the unitary S-size length. To extrapolate magnetic force of different lengths, refer to the conversion magnitude factor presented below.

Size		Conversion Magnitude factor
D		
16	XL	4
	L	4
	S	1
20	XL	4
	L	4
	S	1
30	XL	6
	L	6
	S	1