

Coaster	Park	Builder	Top Velocity	Top Velocity	Time to	Acceleration	Launch	Hill	Distance	Number of	Launching	Train Mass	Force of	Work of	Power of
			Miles per	Meters	Top	Meters			to Top	per					
			Hour	per	Speed	per	G-force	Height	Meters	Area	Horsepower	Kilograms	Newtons	Joules	Watts
				Second	Seconds	Formula 1		Feet	Formula 2	Formula 3	Formula 4	Formula 5	Formula 6	Formulas 7, 8	Formula 9

1. Hydraulic

															Pumps	
New Record-Breaker			149	67	3.5	19.1	1.80	561	117	48	2,856	6,000	114,542	13,393,191	3,826,626	
Formula Rossa	Ferrari world	Intamin	149	67	3.5	19.1	1.80	170	117	48	2,856	6,000	114,542	13,393,191	3,826,626	
Kingda Ka	Six Flags Great Adventure	Intamin	128	57	3.5	16.3	1.66	456	100	40	2,322	6,650	108,395	10,888,108	3,110,888	
Top Thrill Dragster	Cedar Point	Intamin	120	54	4.0	13.5	1.80	420	108	32	1,891	7,000	94,170	10,134,931	2,533,733	
Xcelerator	Knotts Berry Farm	Intamin	82	37	2.3	16.0	1.62	205	42	25	1,536	7,000	111,913	4,732,450	2,057,587	
Zaturn	Space world	Intamin	80	36	2.3	15.6	1.58	205	41	25	1,503	7,200	112,303	4,633,111	2,014,396	
Stealth	Thorpe Park	Intamin	80	36	1.9	18.9	1.91	205	34	30	1,820	7,200	135,945	4,633,111	2,438,480	
Storm Runner	Hershey Park	Intamin	72	32	2.0	16.1	1.51	150	32	23	1,361	7,000	113,004	3,648,575	1,824,288	
												Average	112,896	7,437,640	2,543,714	

2. Magnetic LSM

															Magnetic Area Ft ²	
Superman	Six Flags Magic Mountain	Intamin	100	45	5.0	9.0	1.01	370	112	418	458	3,050	27,354	3,066,621	613,324	
Full Throttle	Six Flags Magic Mountain	Premier	70	31	3.5	9.0	1.10	160	55	460	504	4,800	43,049	2,364,817	675,662	
Helix	Liseburg	Mack	62	28	4.0	7.0	0.70	135	56	461	505	7,000	48,655	2,705,464	676,366	
iSpeed	Mirabilandia	Intamin	62	28	2.2	12.6	1.28	180	31	503	551	4,200	53,078	1,623,278	737,854	
Blue Fire	Europa Park	Mack	62	28	2.5	11.1	1.30	125	35	737	808	7,000	77,848	2,705,464	1,082,185	
Cheetah Hunt	Busch Gardens Tampa	Intamin	60	27	3.0	9.0	0.91	130	40	460	504	5,600	50,224	2,026,986	675,662	
Thunder Bird	Holiday World	B&M	60	27	3.5	7.7	0.78	140	47	529	579	7,500	57,655	2,714,714	775,632	
Rock N Rollercoaster	Disneyland Paris	Vekoma	57	26	2.8	9.1	0.93	80	36	668	731	8,400	76,682	2,744,033	980,012	
Verbolten	Busch Gardens Williamsburg	Intamin	53	24	3.0	7.9	0.80	88	36	359	393	5,600	44,365	1,581,612	527,204	
												Average	53,212	2,392,554	749,322	

3. Magnetic LIM

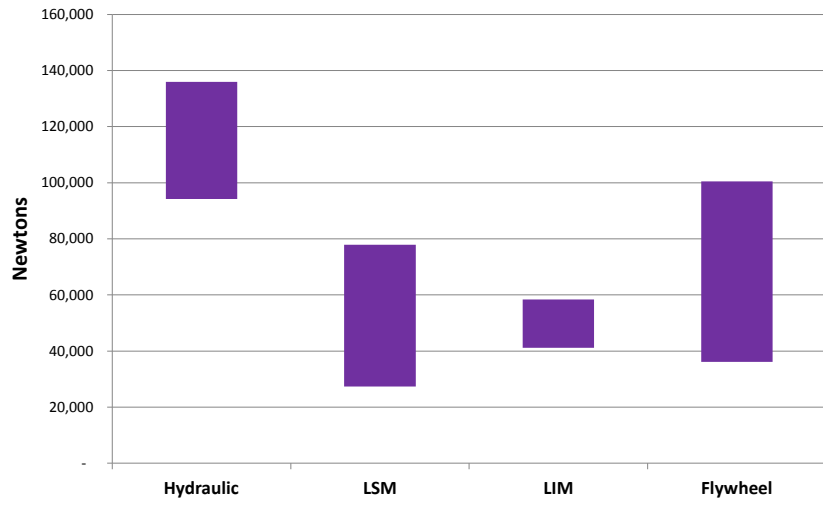
															Magnetic Area Ft ²	
Mr. Freeze	Six Flags Over Texas/ St.Louis	Premier	70	31	3.8	8.3	0.84	160	60	618	677	7,000	57,824	3,448,692	907,551	
Volcano	Kings Dominion	Intamin	70	31	3.5	9.0	0.83	155	55	537	588	5,600	50,224	2,758,954	788,272	
Batman and Robin	Six Flags Great Adventure	Premier	65	29	4.0	7.3	0.74	140	58	507	555	7,000	51,009	2,973,617	743,404	
California Screamin	California Adventure	Intamin	62	28	4.0	7.0	0.70	70	56	553	606	8,400	58,386	3,246,556	811,639	
Flight of Fear	Kings Island	Premier	54	24	4.0	6.1	0.61	74	48	340	372	6,800	41,166	1,993,686	498,421	
												Average	51,722	2,884,301	749,858	

4. Friction wheel

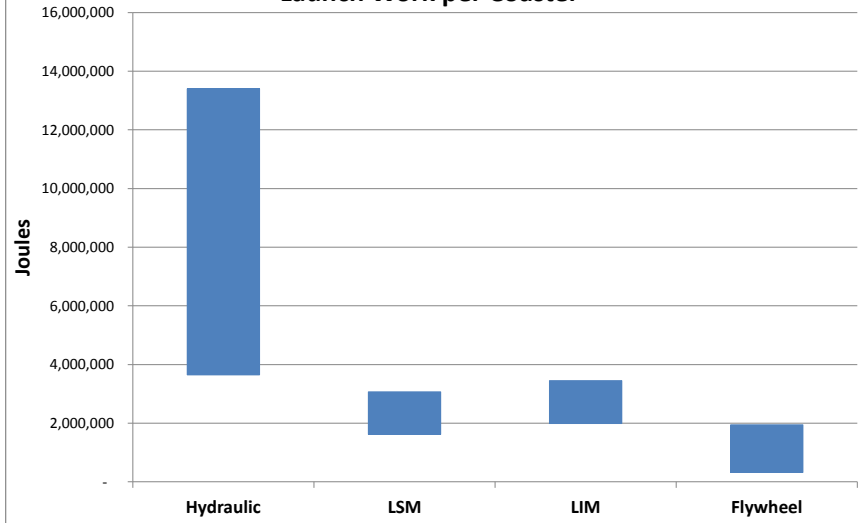
Jet Rescue	Sea World	Intamin	44	20	3.0	6.6	0.50	130	30		484	10,000	65,770	1,946,550	648,850
Hulk	Islands of Adventure	B&M	40	18	2.0	9.0	0.91	110	18		672	11,200	100,448	1,801,766	900,883
FireChaser Express	Dollyworld	Gerstlauer	20	9	2.0	4.5	0.45	70	9		121	8,050	36,099	323,755	161,877
												Average	67,439	1,357,357	570,537

Formulas	5.
1. Acceleration = Velocity / Time	6. Force = Mass x Acceleration
2. Distance = 1/2 (Velocity x Time)	7. Work = Force x Distance
3. Magnetic Area = (.736)Work / 7.5ftlb / in/144in	8. Energy = Mass x Gravity x Height
4. 1 Horsepower = 1340 Watts	9. Power = Work / Time

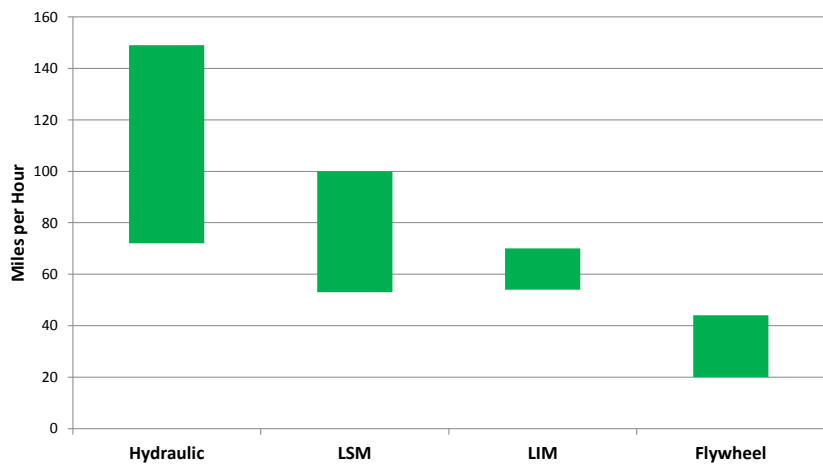
Launch Force per Coaster



Launch Work per Coaster



Top Velocity per Coaster



Maximum Hill Height per Coaster

