

VSPHERE TYPE SPL



- Allow rotations in any direction
- Allow movements in any direction
- Do not bear horizontal loads apart from friction between sliding elements

Bearings according to Euronorm EN 1337-7 and AASHTO LRFD 2020

FREE BEARING											
DATASHEET FOR A LONGITUDINAL DISPLACEMENT OF ± 50 MM											
BEARING DESIGNATION	$V_{max, ULS}$ (kN)	$V_{max, SLS}$ (kN)	UX (mm)	EN				AASHTO			
				L5 (mm)	B5 (mm)	D2 (mm)	TH (mm)	L5 (mm)	B5 (mm)	D2 (mm)	TH (mm)
SPL-500 ± 50	500	358	± 50	312	212	164	61	315	215	168	62
SPL-1000 ± 50	1000	715	± 50	361	261	213	63	369	269	227	74
SPL-1500 ± 50	1500	1072	± 50	401	301	253	73	412	312	254	74
SPL-2000 ± 50	2000	1429	± 50	432	332	284	73	447	347	291	78
SPL-3000 ± 50	3000	2143	± 50	484	384	336	82	506	406	354	84
SPL-4000 ± 50	4000	2858	± 50	530	430	382	82	557	457	409	97
SPL-5000 ± 50	5000	3572	± 50	567	467	419	96	602	502	458	102
SPL-6000 ± 50	6000	4286	± 50	605	505	457	96	640	540	498	107
SPL-7000 ± 50	7000	5000	± 50	637	537	489	106	678	578	540	112
SPL-8000 ± 50	8000	5715	± 50	665	565	517	106	712	612	576	113
SPL-9000 ± 50	9000	6429	± 50	698	598	550	106	744	644	610	127
SPL-10000 ± 50	10000	7143	± 50	725	625	577	112	774	674	642	127
SPL-12000 ± 50	12000	8572	± 50	775	675	627	121	831	731	703	142
SPL-14000 ± 50	14000	10000	± 50	822	722	674	132	883	783	759	148
SPL-16000 ± 50	16000	11429	± 50	862	762	714	136	932	832	812	152
SPL-18000 ± 50	18000	12858	± 50	905	805	757	146	978	878	862	158
SPL-20000 ± 50	20000	14286	± 50	941	841	793	146	1020	920	906	163
SPL-22000 ± 50	22000	15715	± 50	980	880	832	148	1061	961	951	173
SPL-24000 ± 50	24000	17143	± 50	1013	913	865	156	1099	999	991	177
SPL-26000 ± 50	26000	18572	± 50	1049	949	901	156	1138	1038	1034	177
SPL-28000 ± 50	28000	20000	± 50	1080	980	932	166	1174	1074	1072	183
SPL-30000 ± 50	30000	21429	± 50	1110	1010	962	166	1208	1108	1108	192
SPL-34000 ± 50	34000	24286	± 50	1172	1072	1024	181	1276	1176	1182	202
SPL-38000 ± 50	38000	27143	± 50	1229	1129	1081	181	1338	1238	1248	213
SPL-42000 ± 50	42000	30000	± 50	1284	1184	1136	191	1397	1297	1311	217
SPL-46000 ± 50	46000	32858	± 50	1336	1236	1188	202	1452	1352	1370	237
SPL-50000 ± 50	50000	35715	± 50	1387	1287	1239	206	1507	1407	1429	237

FREE BEARING											
DATASHEET FOR A LONGITUDINAL DISPLACEMENT OF ± 100 MM											
BEARING DESIGNATION	$V_{max, ULS}$ (kN)	$V_{max, SLS}$ (kN)	UX (mm)	EN				AASHTO			
				L5 (mm)	B5 (mm)	D2 (mm)	TH (mm)	L5 (mm)	B5 (mm)	D2 (mm)	TH (mm)
SPL-500 ±100	500	358	±100	412	212	164	68	415	215	168	69
SPL-1000 ±100	1000	715	±100	461	261	213	68	469	269	227	74
SPL-1500 ±100	1500	1072	±100	501	301	253	78	512	312	254	79
SPL-2000 ±100	2000	1429	±100	532	332	284	78	547	347	291	83
SPL-3000 ±100	3000	2143	±100	584	384	336	82	606	406	354	88
SPL-4000 ±100	4000	2858	±100	630	430	382	86	657	457	409	98
SPL-5000 ±100	5000	3572	±100	667	467	419	97	702	502	458	107
SPL-6000 ±100	6000	4286	±100	705	505	457	101	740	540	498	107
SPL-7000 ±100	7000	5000	±100	737	537	489	106	778	578	540	117
SPL-8000 ±100	8000	5715	±100	765	565	517	111	812	612	576	117
SPL-9000 ±100	9000	6429	±100	798	598	550	111	844	644	610	128
SPL-10000 ±100	10000	7143	±100	825	625	577	112	874	674	642	132
SPL-12000 ±100	12000	8572	±100	875	675	627	126	931	731	703	143
SPL-14000 ±100	14000	10000	±100	922	722	674	132	983	783	759	152
SPL-16000 ±100	16000	11429	±100	962	762	714	141	1032	832	812	157
SPL-18000 ±100	18000	12858	±100	1005	805	757	146	1078	878	862	162
SPL-20000 ±100	20000	14286	±100	1041	841	793	151	1120	920	906	164
SPL-22000 ±100	22000	15715	±100	1080	880	832	152	1161	961	951	177
SPL-24000 ±100	24000	17143	±100	1113	913	865	157	1199	999	991	178
SPL-26000 ±100	26000	18572	±100	1149	949	901	161	1238	1038	1034	182
SPL-28000 ±100	28000	20000	±100	1180	980	932	166	1274	1074	1072	183
SPL-30000 ±100	30000	21429	±100	1210	1010	962	171	1308	1108	1108	197
SPL-34000 ±100	34000	24286	±100	1272	1072	1024	181	1376	1176	1182	203
SPL-38000 ±100	38000	27143	±100	1329	1129	1081	186	1438	1238	1248	217
SPL-42000 ±100	42000	30000	±100	1384	1184	1136	192	1497	1297	1311	227
SPL-46000 ±100	46000	32858	±100	1436	1236	1188	206	1552	1352	1370	237
SPL-50000 ±100	50000	35715	±100	1487	1287	1239	216	1607	1407	1429	237

Bearings have been designed with the following parameters :

Concrete on deck is H40 ($f_{ck} = 40$ MPa)

Concrete on piers and abutment is H35 ($f_{ck} = 35$ MPa)

Bearing designation: bearing type – $V_{max, ULS}$ (kN) – Longitudinal displacement capacity ULS (mm)

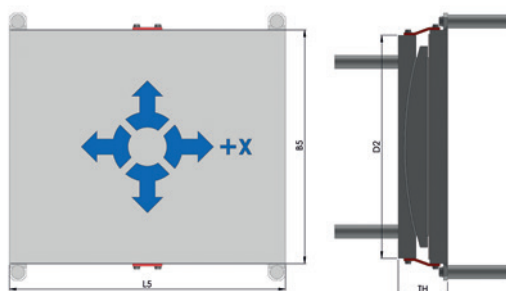
It is supposed a transversal displacement of ±20mm

Minimum vertical load at SLS and ULS is 25% of maximum vertical load at SLS

Rotation 0,01 rad (EN) and 0,02 rad (AASHTO)

Other models are available on request.

The dimensions given are indicative. Designs and dimensions may be modified by VSL without prior notification.



Notes

L5 = upper plate length

B5 = upper plate width

D2 = lower plate diameter

TH = total height