





# Muelles Matricería

## Catálogo General

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## Anexo muelles para matrickería y estampaciones

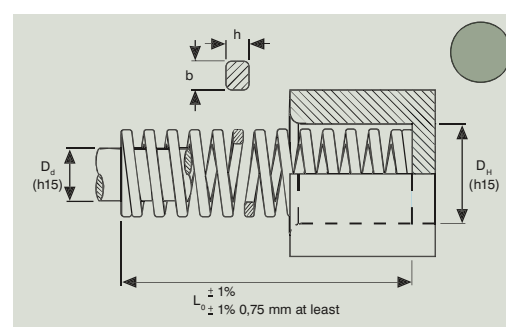
Ref.	Carga	Perfil	Pág.
VL	 Muelles carga extra-ligera		?
V	 Muelles carga ligera		
B	 Muelles carga mediana		
R	 Muelles carga fuerte		
G	 Muelles carga extra-fuerte		






Ref.	Carga	Perfil	Pág.
A	 Muelles carga ultra-fuerte		?
MBL	 Muelles carga ligera		
MHL	 Muelles carga mediana		
HGO	 Muelles carga fuerte		
XHG	 Muelles carga extra-fuerte		






## Sección rectangular ISO 10243

### Muelles carga extra-ligera

- C** MOLLES CÀRREGA EXTRA-LLEUGERA
- GB** EXTRA-LIGHT LOAD SPRINGS
- F** RESSORTS CHARGE EXTRA-LÉGÈRE
- D** FEDERN FÜR LEICHTE SPANNUNG



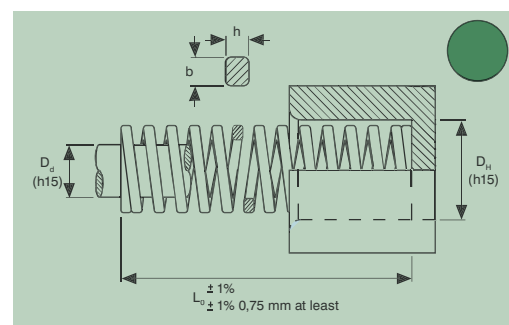
Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R		A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	30% L <sub>0</sub>		40% L <sub>0</sub>		45% L <sub>0</sub>		50% L <sub>0</sub>		approx.	
	b x h			± 10%	+ 3.000.000		~ 1.500.000		300 - 500.000		100 - 200.000		Do not use	
mm	mm	mm	N/mm	N	mm	N	mm	N	mm	N	mm	N	mm	mm
VL 20 - 025	20	10	25	29.4	7.5	221	10.0	294	11.3	331	12.5	368	13.9	
VL 20 - 032			32	22.6	9.6	217	12.8	289	14.4	325	16.0	362	18.2	
VL 20 - 038			38	18.6	11.4	212	15.2	283	17.1	318	19.0	353	22.0	
VL 20 - 044			44	15.7	13.2	207	17.6	276	19.8	311	22.0	345	25.8	
VL 20 - 051			51	13.7	15.3	210	20.4	279	23.0	314	25.5	349	30.3	
VL 20 - 064			64	11.3	19.2	217	25.6	289	28.8	325	32.0	362	38.9	
VL 20 - 076			76	9.8	22.8	223	30.4	298	34.2	335	38.0	372	47.0	
VL 20 - 089			89	8.3	26.7	222	35.6	295	40.1	332	44.5	369	55.7	
VL 20 - 102			102	7.4	30.6	226	40.8	302	45.9	340	51.0	377	64.2	
VL 20 - 115			115	6.4	34.5	221	46.0	294	51.8	331	57.5	368	72.9	
VL 20 - 127			127	5.9	38.1	225	50.8	300	57.2	337	63.5	375	80.7	
VL 20 - 139			139	5.4	41.7	225	55.6	300	62.6	338	69.5	375	88.4	
VL 20 - 152	3.9 x 1.7		152	4.9	45.6	223	60.8	298	68.4	335	76.0	372	96.7	
VL 20 - 305			305	2.5	91.5	229	122	305	137	343	153	381	196	
VL 25 - 025			25	53.9	7.5	404	10.0	539	11.3	606	12.5	674	12.9	
VL 25 - 032			32	42.2	9.6	405	12.8	540	14.4	608	16.0	675	17.2	
VL 25 - 038			38	35.8	11.4	408	15.2	544	17.1	612	19.0	680	20.7	
VL 25 - 044			44	31.4	13.2	414	17.6	553	19.8	622	22.0	691	24.4	
VL 25 - 051			51	27.0	15.3	413	20.4	551	23.0	620	25.5	689	28.5	
VL 25 - 064			64	21.6	19.2	415	25.6	553	28.8	622	32.0	691	36.5	
VL 25 - 076			76	18.1	22.8	413	30.4	550	34.2	619	38.0	688	43.9	
VL 25 - 089			89	15.2	26.7	406	35.6	541	40.1	609	44.5	676	51.4	
VL 25 - 102			102	13.2	30.6	404	40.8	539	45.9	606	51.0	673	59.3	
VL 25 - 115			115	11.8	34.5	407	46.0	543	51.8	611	57.5	679	67.2	
VL 25 - 127	127	10.6	38.1	404	50.8	538	57.2	606	63.5	673	74.4			
VL 25 - 139	25	12.5	139	9.6	41.7	400	55.6	534	62.6	600	69.5	667	81.6	
VL 25 - 152			152	8.8	45.6	401	60.8	535	68.4	602	76.0	669	89.5	
VL 25 - 178			178	7.6	53.4	406	71.2	541	80.1	609	89.0	676	105	
VL 25 - 203			203	6.7	60.9	408	81.2	544	91.4	612	102	680	121	
VL 25 - 305			305	4.4	91.5	403	122	537	137	604	153	671	182	
VL 32 - 038			38	43.1	11.4	491	15.2	655	17.1	737	19.0	819	19.9	
VL 32 - 044			44	37.3	13.2	492	17.6	656	19.8	739	22.0	821	23.5	
VL 32 - 051			51	32.4	15.3	496	20.4	661	23.0	744	25.5	826	27.6	
VL 32 - 064			64	25.5	19.2	490	25.6	653	28.8	734	32.0	816	35.2	
VL 32 - 076			76	21.6	22.8	492	30.4	657	34.2	739	38.0	821	42.4	
VL 32 - 089			89	18.1	26.7	483	35.6	644	40.1	725	44.5	805	50.0	
VL 32 - 102			32	16	102	15.7	30.6	480	40.8	641	45.9	721	51.0	801
VL 32 - 115	115	14.2			34.5	490	46.0	653	51.8	735	57.5	817	65.5	
VL 32 - 127	127	12.7			38.1	484	50.8	645	57.2	726	63.5	806	72.5	
VL 32 - 139	139	11.6			41.7	484	55.6	645	62.6	726	69.5	806	79.4	
VL 32 - 152	152	10.6			45.6	483	60.8	644	68.4	725	76.0	806	87.3	
VL 32 - 178	178	9.0			53.4	481	71.2	641	80.1	721	89.0	801	103	
VL 32 - 203	203	7.8			60.9	475	81.2	633	91.4	713	102	792	118	
VL 32 - 254	254	6.4			76.2	488	102	650	114	732	127	813	148	
VL 32 - 305	305	5.3			91.5	485	122	647	137	727	153	808	178	






Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R		A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant		30% L <sub>0</sub>		40% L <sub>0</sub>		45% L <sub>0</sub>		50% L <sub>0</sub>		aprox.
	b x h			± 10%	+ 3.000.000	N	~ 1.500.000	N	300 - 500.000	N	100 - 200.000	N	Do not use	
	mm	mm	mm	N/mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
VL 40 - 051	40	20	51	48.1	15.3	736	20.4	981	23.0	1104	25.5	1227	28.0	
VL 40 - 064			64	39.2	19.2	753	25.6	1004	28.8	1129	32.0	1254	36.2	
VL 40 - 076			76	33.3	22.8	759	30.4	1012	34.2	1139	38.0	1265	43.7	
VL 40 - 089			89	28.4	26.7	758	35.6	1011	40.1	1137	44.5	1264	51.7	
VL 40 - 102			102	24.5	30.6	750	40.8	1000	45.9	1125	51.0	1250	59.8	
VL 40 - 115			115	22.1	34.5	762	46.0	1017	51.8	1144	57.5	1271	67.9	
VL 40 - 127			127	19.6	38.1	747	50.8	996	57.2	1120	63.5	1245	75.2	
VL 40 - 139			139	17.7	41.7	738	55.6	984	62.6	1107	69.5	1230	82.4	
VL 40 - 152			152	16.2	45.6	739	60.8	985	68.4	1108	76.0	1231	90.6	
VL 40 - 178			178	13.7	53.4	732	71.2	975	80.1	1097	89.0	1219	106	
VL 40 - 203	8.0 x 3.4		203	12.3	60.9	749	81.2	999	91.4	1124	101	1248	122	
VL 40 - 254			254	9.8	76.2	747	102	996	114	1120	127	1245	154	
VL 40 - 305			305	8.3	91.5	759	122	1013	137	1139	152	1266	185	
VL 50 - 064	50	25	64	86.3	19.2	1657	25.6	2209	28.8	2485	32.0	2762	35.1	
VL 50 - 076			76	70.6	22.8	1610	30.4	2146	34.2	2415	38.0	2683	42.2	
VL 50 - 089			89	59.8	26.7	1597	35.6	2129	40.1	2395	44.5	2661	50.3	
VL 50 - 102			102	52.0	30.6	1591	40.8	2122	45.9	2387	51.0	2652	58.4	
VL 50 - 115			115	46.1	34.5	1590	46.0	2121	51.8	2386	57.5	2651	66.1	
VL 50 - 127			127	42.2	38.1	1608	50.8	2144	57.2	2412	63.5	2680	73.8	
VL 50 - 139			139	38.2	41.7	1593	55.6	2124	62.6	2389	69.5	2655	80.9	
VL 50 - 152			152	34.3	45.6	1564	60.8	2085	68.4	2346	76.0	2607	89.0	
VL 50 - 178			178	29.4	53.4	1570	71.2	2093	80.1	2355	89.0	2617	105	
VL 50 - 203			203	25.5	60.9	1553	81.2	2071	91.4	2329	101	2588	121	
VL 50 - 254	10.5 x 4.1		254	20.6	76.2	1570	102	2093	114	2355	127	2616	152	
VL 50 - 305			305	17.2	91.5	1574	122	2098	137	2361	152	2623	184	

## Sección rectangular ISO 10243

### Muelles carga ligera

- C** MOLLES CÀRREGA LLEUGERA
- GB** LIGHT LOAD SPRINGS
- F** RESSORTS CHARGE LÉGÈRE
- D** FEDERN FÜR NORMALE SPANNUNG



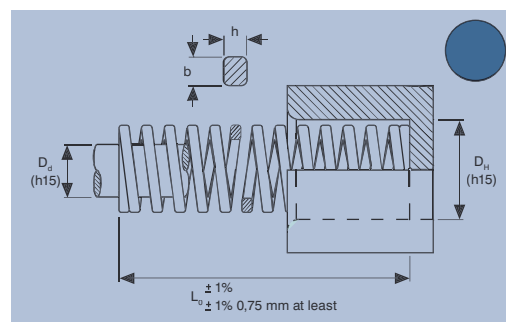
Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R									
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	A	B	C	D	E				
	b x h			± 10%	25% L <sub>0</sub> + 3.000.000	30% L <sub>0</sub> ~ 1.500.000	35% L <sub>0</sub> 300 - 500.000	40% L <sub>0</sub> 100 - 200.000	aprox. Do not use				
	mm	mm	mm	N/mm	mm N	mm N	mm N	mm N	mm				
V 10 - 032	10	25	32	8.5	8.0	68	9.6	82	11.2	95	12.8	109	17.5
V 10 - 038			38	6.8	9.5	65	11.4	78	13.3	90	15.2	103	20.8
V 10 - 044			44	6.0	11.0	66	13.2	79	15.4	92	17.6	106	23.9
V 10 - 051			51	5.0	12.8	64	15.3	77	17.9	89	20.4	102	28.9
V 10 - 064			64	4.3	16.0	69	19.2	83	22.4	96	25.6	110	36.1
V 10 - 076			76	3.2	19.0	61	22.8	73	26.6	85	30.4	97	43.2
V 10 - 305	1.7 x 1.1		305	1.1	76.3	84	91.5	101	107	117	122	134	178
V 13 - 025	12.5	6.3	25	17.9	6.3	113	7.5	134	8.8	157	10.0	179	13.2
V 13 - 032			32	16.4	8.0	131	9.6	157	11.2	184	12.8	210	18.0
V 13 - 038			38	13.6	9.5	129	11.4	155	13.3	181	15.2	207	21.0
V 13 - 044			44	12.1	11.0	133	13.2	160	15.4	186	17.6	213	24.0
V 13 - 051			51	11.4	12.8	146	15.3	174	17.9	203	20.4	233	28.7
V 13 - 064			64	9.3	16.0	149	19.2	179	22.4	208	25.6	238	35.8
V 13 - 076	2.4 x 1.4	8	76	7.1	19.0	135	22.8	162	26.6	189	30.4	216	42.7
V 13 - 089			89	5.4	22.3	120	26.7	144	31.2	168	35.6	192	50.4
V 13 - 102			102	4.1	25.5	105	30.6	125	35.7	146	40.8	167	58.4
V 13 - 305			305	1.4	76.3	107	91.5	128	107	149	122	171	172
V 16 - 025	16	8	25	23.4	6.3	147	7.5	176	8.8	205	10.0	234	12.6
V 16 - 032			32	22.9	8.0	183	9.6	220	11.2	256	12.8	293	16.4
V 16 - 038			38	19.3	9.5	183	11.4	220	13.3	257	15.2	293	19.7
V 16 - 044			44	17.1	11.0	188	13.2	226	15.4	263	17.6	301	22.5
V 16 - 051			51	15.7	12.8	201	15.3	240	17.9	280	20.4	320	26.3
V 16 - 064			64	10.7	16.0	171	19.2	205	22.4	240	25.6	274	33.3
V 16 - 076	3.2 x 1.5		76	10.0	19.0	190	22.8	228	26.6	266	30.4	304	40.2
V 16 - 089			89	8.6	22.3	192	26.7	230	31.2	268	35.6	306	47.6
V 16 - 102			102	7.8	25.5	199	30.6	239	35.7	278	40.8	318	55.4
V 16 - 115			115	6.6	28.8	190	34.5	228	40.3	266	46.0	304	60.8
V 16 - 305			305	2.5	76.3	191	91.5	229	107	267	122	305	165






Ref.	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A 25% L <sub>0</sub>		B 30% L <sub>0</sub>		C 35% L <sub>0</sub>		D 40% L <sub>0</sub>		E Do not use
	b x h		mm	N/mm	+ 3.000.000		~ 1.500.000		300 - 500.000		100 - 200.000		mm
	mm	mm			mm	N	mm	N	mm	N	mm	N	
V 20 - 025	20	10	25	55.8	6.3	352	7.5	419	8.8	488	10.0	558	12.1
V 20 - 032			32	45.0	8.0	360	9.6	432	11.2	504	12.8	576	15.3
V 20 - 038			38	33.3	9.5	316	11.4	380	13.3	443	15.2	506	18.9
V 20 - 044			44	30.0	11.0	330	13.2	396	15.4	462	17.6	528	21.5
V 20 - 051			51	24.5	12.8	314	15.3	375	17.9	437	20.4	500	25.0
V 20 - 064			64	20.0	16.0	320	19.2	384	22.4	448	25.6	512	31.1
V 20 - 076			76	16.0	19.0	304	22.8	365	26.6	426	30.4	486	37.3
V 20 - 089			89	14.0	22.3	312	26.7	374	31.2	436	35.6	498	44.5
V 20 - 102			102	12.0	25.5	306	30.6	367	35.7	428	40.8	490	51.1
V 20 - 115			115	10.9	28.8	314	34.5	376	40.3	439	46.0	501	58.2
V 20 - 127			127	9.5	31.8	302	38.1	362	44.5	422	50.8	483	64.9
V 20 - 139			139	8.4	35.0	294	42.0	353	48.7	409	56.0	470	71.5
V 20 - 152			152	7.5	38.0	285	45.6	342	53.2	399	60.8	456	78.8
V 20 - 305			305	4.0	76.3	305	91.5	366	107	427	122	488	157
V 25 - 025	25	12.5	25	100	6.3	630	7.5	750	8.8	875	10.0	1000	11.9
V 25 - 032			32	80.3	8.0	642	9.6	771	11.2	899	12.8	1028	16.0
V 25 - 038			38	62.0	9.5	589	11.4	707	13.3	825	15.2	942	18.3
V 25 - 044			44	52.9	11.0	582	13.2	698	15.4	815	17.6	931	21.4
V 25 - 051			51	44.0	12.8	563	15.3	673	17.9	785	20.4	898	24.9
V 25 - 064			64	35.2	16.0	563	19.2	676	22.4	788	25.6	901	31.4
V 25 - 076			76	28.0	19.0	532	22.8	638	26.6	745	30.4	851	37.5
V 25 - 089			89	24.0	22.3	535	26.7	641	31.2	748	35.6	854	43.5
V 25 - 102			102	21.1	25.5	538	30.6	646	35.7	753	40.8	861	51.1
V 25 - 115			115	18.7	28.8	539	34.5	645	40.3	753	46.0	860	58.1
V 25 - 127			127	16.7	31.8	531	38.1	636	44.5	742	50.8	848	64.1
V 25 - 139			139	15.3	35.0	536	42.0	643	48.7	744	56.0	857	70.4
V 25 - 152			152	14.0	38.0	532	45.6	638	53.2	745	60.8	851	77.1
V 25 - 178			178	12.5	44.5	556	53.4	668	62.3	779	71.2	890	93.1
V 25 - 203	32	16	203	10.4	50.8	528	60.9	633	71.1	739	81.2	844	103
V 25 - 305			305	7.0	76.3	534	91.5	641	107	747	122	854	156
V 32 - 038			38	94.0	9.5	893	11.4	1072	13.3	1250	15.2	1429	18.3
V 32 - 044			44	79.5	11.0	875	13.2	1049	15.4	1224	17.6	1399	21.5
V 32 - 051			51	67.0	12.8	858	15.3	1025	17.9	1196	20.4	1367	25.5
V 32 - 064			64	53.0	16.0	848	19.2	1018	22.4	1187	25.6	1357	31.9
V 32 - 076			76	44.0	19.0	836	22.8	1003	26.6	1170	30.4	1338	38.6
V 32 - 089			89	37.2	22.3	830	26.7	993	31.2	1159	35.6	1324	46.5
V 32 - 102			102	32.0	25.5	816	30.6	979	35.7	1142	40.8	1306	53.2
V 32 - 115			115	29.0	28.8	835	34.5	1001	40.3	1167	46.0	1334	60.0
V 32 - 127			127	25.0	31.8	795	38.1	953	44.5	1111	50.8	1270	66.7
V 32 - 139			139	23.0	35.0	805	42.0	966	48.7	1119	56.0	1288	71.8
V 32 - 152			152	21.5	38.0	817	45.6	980	53.2	1144	60.8	1307	78.5
V 32 - 178			178	18.2	44.5	810	53.4	972	62.3	1134	71.2	1296	94.4
V 32 - 203			203	15.8	50.8	803	60.9	962	71.1	1123	81.2	1283	107
V 32 - 254	40	20	254	12.5	63.5	794	76.2	953	88.9	1111	102	1270	136
V 32 - 305			305	10.3	76.3	786	91.5	942	107	1100	122	1257	163
V 40 - 051			51	92.0	12.8	1178	15.3	1408	17.9	1642	20.4	1877	25.5
V 40 - 064			64	73.0	16.0	1168	19.2	1402	22.4	1635	25.6	1869	31.4
V 40 - 076			76	63.0	19.0	1197	22.8	1436	26.6	1676	30.4	1915	37.8
V 40 - 089			89	51.0	22.3	1137	26.7	1362	31.2	1589	35.6	1816	44.3
V 40 - 102			102	43.0	25.5	1097	30.6	1316	35.7	1535	40.8	1754	50.7
V 40 - 115			115	39.6	28.8	1140	34.5	1366	40.3	1594	46.0	1822	58.1
V 40 - 127			127	37.0	31.8	1177	38.1	1410	44.5	1645	50.8	1880	64.6
V 40 - 139			139	32.0	35.0	1120	42.0	1344	48.7	1557	56.0	1792	70.1
V 40 - 152			152	28.0	38.0	1064	45.6	1277	53.2	1490	60.8	1702	76.6
V 40 - 178			178	25.2	44.5	1121	53.4	1346	62.3	1570	71.2	1794	90.4
V 40 - 203			203	22.7	50.8	1153	60.9	1382	71.1	1613	81.2	1843	102
V 40 - 254			254	17.0	63.5	1080	76.2	1295	88.9	1511	102	1727	129
V 40 - 305			305	14.8	76.3	1129	91.5	1354	107	1580	122	1806	156
V 50 - 064	50	25	64	156	16.0	2496	19.2	2995	22.4	3494	25.6	3994	31.0
V 50 - 076			76	125	19.0	2375	22.8	2850	26.6	3325	30.4	3800	37.2
V 50 - 089			89	109	22.3	2431	26.7	2910	31.2	3395	35.6	3880	43.6
V 50 - 102			102	94.0	25.5	2397	30.6	2876	35.7	3356	40.8	3835	50.3
V 50 - 115			115	81.0	28.8	2333	34.5	2795	40.3	3260	46.0	3726	58.1
V 50 - 127			127	71.0	31.8	2258	38.1	2705	44.5	3156	50.8	3607	63.7
V 50 - 139			139	66.5	35.0	2328	42.0	2793	48.7	3235	56.0	3724	69.5
V 50 - 152			152	60.0	38.0	2280	45.6	2736	53.2	3192	60.8	3648	76.5
V 50 - 178			178	52.0	44.5	2314	53.4	2777	62.3	3240	71.2	3702	91.9
V 50 - 203			203	44.0	50.8	2235	60.9	2680	71.1	3126	81.2	3573	105
V 50 - 254			254	35.0	63.5	2223	76.2	2667	88.9	3112	102	3556	131
V 50 - 305			305	28.5	76.3	2175	91.5	2608	107	3042	122	3477	155
V 63 - 076	63	38	76	189	19.0	3591	22.8	4309	26.6	5027	30.4	5746	36.5
V 63 - 089			89	158	22.3	3523	26.7	4219	31.2	4922	35.6	5625	43.4
V 63 - 102			102	131	25.5	3341	30.6	4009	35.7	4677	40.8	5345	49.7
V 63 - 115			115	116	28.8	3341	34.5	4002	40.3	4669	46.0	5336	55.6
V 63 - 127			127	103	31.8	3275	38.1	3924	44.5	4578	50.8	5232	62.7
V 63 - 152			152	84.3	38.0	3203	45.6	3844	53.2	4485	60.8	5125	77.1
V 63 - 178			178	71.5	44.5	3182	53.4	3818	62.3	4454	71.2	5091	92.2
V 63 - 203			203	61.7	50.8	3134	60.9	3758	71.1	4384	81.2	5010	103
V 63 - 254			254	47.0	63.5	2985	76.2	3581	88.9	4178	102	4775	130
V 63 - 305			305	38.2	76.3	2915	91.5	3495	107	4078	122	4660	157

## Sección rectangular ISO 10243






### Muelles carga mediana

- C** MOLLES CÀRREGA MITJANA
- GB** MEDIUM LOAD SPRINGS
- F** RESSORTS CHARGE MOYENNE
- D** FEDERN FÜR MITTLERE SPANNUNG



Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R		A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	25% L <sub>0</sub>	N	30% L <sub>0</sub>	N	35% L <sub>0</sub>	N	40% L <sub>0</sub>	N	aprox.	
	b x h			± 10%	+ 3.000.000		~ 1.500.000		300 - 500.000		100 - 200.000		Do not use	
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm	mm
B 10 - 032	10	5	32	13.0	8.0	104	9.6	125	10.8	140	12.0	156	14.2	
B 10 - 038			38	11.9	9.5	113	11.4	136	12.8	153	14.3	170	16.8	
B 10 - 044			44	10.3	11.0	113	13.2	136	14.9	153	16.5	170	19.4	
B 10 - 051			51	8.9	12.8	114	15.3	136	17.2	153	19.1	170	23.4	
B 10 - 064			64	7.5	16.0	120	19.2	144	21.6	162	24.0	180	28.2	
B 10 - 076			76	5.3	19.0	101	22.8	121	25.7	136	28.5	151	34.2	
B 10 - 305			305	1.6	76.3	122	91.5	146	103	165	114	183	134	
B 13 - 025	12.5	6.3	25	30.0	6.3	189	7.5	225	8.4	253	9.4	282	11.9	
B 13 - 032			32	24.8	8.0	198	9.6	238	10.8	268	12.0	298	16.2	
B 13 - 038			38	21.4	9.5	203	11.4	244	12.8	274	14.3	306	18.7	
B 13 - 044			44	18.5	11.0	204	13.2	244	14.9	275	16.5	305	21.3	
B 13 - 051			51	15.5	12.8	198	15.3	237	17.2	267	19.1	296	25.6	
B 13 - 064			64	12.1	16.0	194	19.2	232	21.6	261	24.0	290	32.4	
B 13 - 076			76	10.2	19.0	194	22.8	233	25.7	262	28.5	291	39.0	
B 13 - 089	2.5 x 1.5		89	8.4	22.3	187	26.7	224	30.0	252	33.4	281	45.9	
B 13 - 102			102	6.3	25.5	161	30.6	193	34.4	217	38.3	241	52.3	
B 13 - 305			305	2.1	76.3	160	91.5	192	103	216	114	240	153	
B 16 - 025			25	49.4	6.3	311	7.5	371	8.4	417	9.4	464	10.5	
B 16 - 032			32	37.1	8.0	297	9.6	356	10.8	401	12.0	445	13.2	
B 16 - 038			38	33.9	9.5	322	11.4	386	12.8	435	14.3	485	17.2	
B 16 - 044			44	30.0	11.0	330	13.2	396	14.9	446	16.5	495	19.4	
B 16 - 051	16	8	51	26.4	12.8	338	15.3	404	17.2	454	19.1	504	24.2	
B 16 - 064			64	20.5	16.0	328	19.2	394	21.6	443	24.0	492	29.2	
B 16 - 076			76	17.8	19.0	338	22.8	406	25.7	457	28.5	507	36.3	
B 16 - 089			89	15.2	22.3	339	26.7	406	30.0	457	33.4	508	41.7	
B 16 - 102			102	13.5	25.5	344	30.6	413	34.4	465	38.3	517	48.9	
B 16 - 115			115	11.8	28.8	340	34.5	407	38.8	458	43.1	509	53.1	
B 16 - 305			305	4.8	76.3	366	91.5	439	103	494	114	549	142	
B 20 - 025	3.2 x 2.0		25	98.0	6.3	617	7.5	735	8.4	827	9.4	921	10.5	
B 20 - 032			32	72.6	8.0	581	9.6	697	10.8	784	12.0	871	13.9	
B 20 - 038			38	56.0	9.5	532	11.4	638	12.8	718	14.3	801	16.6	
B 20 - 044			44	47.5	11.0	523	13.2	627	14.9	705	16.5	784	18.8	
B 20 - 051			51	41.7	12.8	534	15.3	638	17.2	718	19.1	796	23.1	
B 20 - 064			64	32.3	16.0	517	19.2	620	21.6	698	24.0	775	27.5	
B 20 - 076			76	25.1	19.0	477	22.8	572	25.7	644	28.5	715	33.8	
B 20 - 089	20	10	89	22.0	22.3	491	26.7	587	30.0	661	33.4	735	39.7	
B 20 - 102			102	19.8	25.5	505	30.6	606	34.4	682	38.3	758	47.3	
B 20 - 115			115	18.1	28.8	521	34.5	624	38.8	703	43.1	780	52.5	
B 20 - 127			127	16.6	31.8	528	38.1	632	42.9	712	47.6	790	56.9	
B 20 - 139			139	15.1	35.0	529	42.0	634	46.9	708	52.5	793	62.1	
B 20 - 152			152	13.2	38.0	500	45.6	600	51.3	677	57.0	750	67.6	
B 20 - 305			305	6.1	76.3	465	91.5	558	103	628	114	698	143	
B 25 - 025	4.1 x 2.4		25	147	6.3	926	7.5	1103	8.4	1240	9.4	1382	10.2	
B 25 - 032			32	118	8.0	944	9.6	1133	10.8	1274	12.0	1416	13.7	
B 25 - 038			38	93.0	9.5	884	11.4	1060	12.8	1193	14.3	1330	15.7	
B 25 - 044			44	80.8	11.0	889	13.2	1067	14.9	1200	16.5	1333	18.2	
B 25 - 051			51	68.6	12.8	878	15.3	1050	17.2	1181	19.1	1310	21.7	
B 25 - 064			64	53.0	16.0	848	19.2	1018	21.6	1145	24.0	1272	26.0	
B 25 - 076			76	43.2	19.0	821	22.8	985	25.7	1108	28.5	1231	32.3	
B 25 - 089	25	12.5	89	38.2	22.3	852	26.7	1020	30.0	1147	33.4	1276	38.0	
B 25 - 102			102	33.0	25.5	842	30.6	1010	34.4	1136	38.3	1264	43.0	
B 25 - 115			115	28.0	28.8	806	34.5	966	38.8	1087	43.1	1207	48.6	
B 25 - 127			127	25.9	31.8	824	38.1	987	42.9	1110	47.6	1233	53.7	
B 25 - 139			139	23.2	35.0	812	42.0	974	46.9	1088	52.5	1218	59.4	
B 25 - 152			152	20.8	38.0	790	45.6	948	51.3	1067	57.0	1186	63.8	
B 25 - 178			178	17.8	44.5	792	53.4	951	60.1	1069	66.8	1189	76.6	
B 25 - 203	5.4 x 3.3		203	15.8	50.8	803	60.9	962	68.5	1082	76.1	1202	88.4	
B 25 - 305			305	10.2	76.3	778	91.5	933	103	1050	114	1167	135	

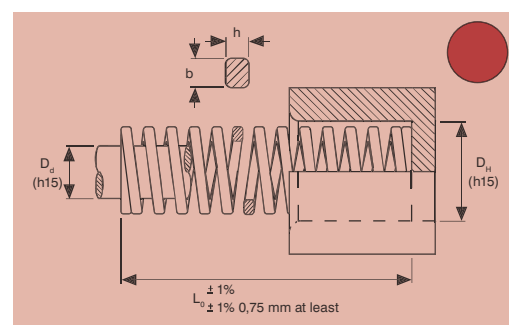










Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	 A		 B		 C		 D		 E		
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	25% L <sub>0</sub>		30% L <sub>0</sub>		35% L <sub>0</sub>		40% L <sub>0</sub>		aprox.		
	b x h			± 10%	+ 3.000.000	N	~ 1.500.000	N	300 - 500.000	N	100 - 200.000	N	Do not use		
mm	mm	mm	N/mm	mm	mm	mm	mm	mm	mm	mm	mm	mm			
B 32 - 038	32	16	38	185	9.5	1758	11.4	2109	12.8	2373	14.3	2646	16.3		
B 32 - 044			44	158	11.0	1738	13.2	2086	14.9	2346	16.5	2607	18.9		
B 32 - 051			51	134	12.8	1715	15.3	2050	17.2	2306	19.1	2559	23.1		
B 32 - 064			64	99.0	16.0	1584	19.2	1901	21.6	2138	24.0	2376	28.5		
B 32 - 076			76	80.5	19.0	1530	22.8	1835	25.7	2065	28.5	2294	34.2		
B 32 - 089			89	69.1	22.3	1541	26.7	1845	30.0	2076	33.4	2308	40.4		
B 32 - 102			102	58.8	25.5	1499	30.6	1799	34.4	2024	38.3	2252	48.0		
B 32 - 115			115	51.5	28.8	1483	34.5	1777	38.8	1999	43.1	2220	54.3		
B 32 - 127			127	44.8	31.8	1425	38.1	1707	42.9	1920	47.6	2132	59.2		
B 32 - 139			139	42.3	35.0	1481	42.0	1777	46.9	1984	52.5	2221	65.3		
B 32 - 152			152	37.8	38.0	1436	45.6	1724	51.3	1939	57.0	2155	73.0		
B 32 - 178			178	32.5	44.5	1446	53.4	1736	60.1	1952	66.8	2171	84.5		
B 32 - 203			203	28.9	50.8	1468	60.9	1760	68.5	1980	76.1	2199	96.9		
B 32 - 254			254	21.4	63.5	1359	76.2	1631	85.7	1835	95.3	2039	121		
B 32 - 305			305	18.3	76.3	1396	91.5	1674	103	1884	114	2094	147		
B 40 - 051	40	20	51	182	12.8	2330	15.3	2785	17.2	3130	19.1	3476	21.4		
B 40 - 064			64	140	16.0	2240	19.2	2688	21.6	3024	24.0	3360	26.8		
B 40 - 076			76	108	19.0	2052	22.8	2462	25.7	2770	28.5	3078	32.7		
B 40 - 089			89	90.7	22.3	2023	26.7	2422	30.0	2724	33.4	3029	39.0		
B 40 - 102			102	81.0	25.5	2066	30.6	2479	34.4	2788	38.3	3102	44.1		
B 40 - 115			115	71.8	28.8	2068	34.5	2477	38.8	2787	43.1	3095	50.6		
B 40 - 127			127	62.7	31.8	1994	38.1	2389	42.9	2687	47.6	2985	55.9		
B 40 - 139			139	57.5	35.0	2013	42.0	2415	46.9	2697	52.5	3019	61.8		
B 40 - 152			152	51.6	38.0	1961	45.6	2353	51.3	2647	57.0	2941	67.5		
B 40 - 178			178	44.1	44.5	1962	53.4	2355	60.1	2649	66.8	2946	77.2		
B 40 - 203			203	36.7	50.8	1864	60.9	2235	68.5	2514	76.1	2793	91.8		
B 40 - 254			254	30.1	63.5	1911	76.2	2294	85.7	2580	95.3	2869	113		
B 40 - 305			305	24.6	76.3	1877	91.5	2251	103	2532	114	2814	138		
B 50 - 064			50	25	64	209	16.0	3344	19.2	4013	21.6	4514	24.0	5016	28.2
B 50 - 076					76	168	19.0	3192	22.8	3830	25.7	4309	28.5	4788	34.9
B 50 - 089	89	140			22.3	3122	26.7	3738	30.0	4205	33.4	4676	39.2		
B 50 - 102	102	119			25.5	3035	30.6	3641	34.4	4097	38.3	4558	47.3		
B 50 - 115	115	106			28.8	3053	34.5	3657	38.8	4114	43.1	4569	52.6		
B 50 - 127	127	97.0			31.8	3085	38.1	3696	42.9	4158	47.6	4617	59.8		
B 50 - 139	139	87.0			35.0	3045	42.0	3654	46.9	4081	52.5	4568	65.1		
B 50 - 152	152	80.0			38.0	3040	45.6	3648	51.3	4104	57.0	4560	70.8		
B 50 - 178	178	69.5			44.5	3093	53.4	3711	60.1	4175	66.8	4643	84.2		
B 50 - 203	203	59.8			50.8	3038	60.9	3642	68.5	4097	76.1	4551	96.5		
B 50 - 229	229	50.9			57.3	2917	68.7	3497	77.3	3934	85.9	4372	108		
B 50 - 254	254	43.9			63.5	2788	76.2	3345	85.7	3763	95.3	4184	122		
B 50 - 305	305	38.6			76.3	2945	91.5	3532	103	3973	114	4416	147		
B 63 - 076	63	38			76	312	19.0	5928	22.8	7114	25.7	8003	28.5	8892	30.7
B 63 - 089					89	260	22.3	5798	26.7	6942	30.0	7810	33.4	8684	36.5
B 63 - 102			102	221	25.5	5636	30.6	6763	34.4	7608	38.3	8464	43.6		
B 63 - 115			115	187	28.8	5386	34.5	6452	38.8	7258	43.1	8060	48.9		
B 63 - 127			127	168	31.8	5342	38.1	6401	42.9	7201	47.6	7997	54.2		
B 63 - 152			152	136	38.0	5168	45.6	6202	51.3	6977	57.0	7752	65.7		
B 63 - 178			178	114	44.5	5073	53.4	6088	60.1	6849	66.8	7615	76.5		
B 63 - 203			203	100	50.8	5080	60.9	6090	68.5	6851	76.1	7610	88.0		
B 63 - 229			229	89.2	57.3	5111	68.7	6128	77.3	6894	85.9	7662	104		
B 63 - 254			254	78.4	63.5	4978	76.2	5974	85.7	6721	95.3	7472	112		
B 63 - 305			305	64.7	76.3	4937	91.5	5920	103	6660	114	7402	134		






## Sección rectangular ISO 10243






### Muelles carga fuerte

- C** MOLLES CÀRREGA FORTA
- GB** STRONG LOAD SPRINGS
- F** RESSORTS CHARGE FORTE
- D** FEDERN FÜR HOHE SPANNUNG



Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	 20% L <sub>0</sub>	 25% L <sub>0</sub>	 27,5% L <sub>0</sub>	 30% L <sub>0</sub>	 300 - 500.000	 100 - 200.000	 Do not use	 aprox.	
	b x h			± 10%	+ 3.000.000	~ 1.500.000							
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm
R 10 - 032	10	5	32	17.5	6.4	112	8.0	140	8.8	154	9.6	168	12.1
R 10 - 038			38	17.1	7.6	130	9.5	162	10.5	179	11.4	195	13.2
R 10 - 044			44	15.0	8.8	132	11.0	165	12.1	182	13.2	198	15.1
R 10 - 051			51	12.8	10.2	131	12.8	164	14.0	180	15.3	196	19.5
R 10 - 064			64	10.7	12.8	137	16.0	171	17.6	188	19.2	205	21.8
R 10 - 076			76	7.5	15.2	114	19.0	143	20.9	157	22.8	171	27.9
R 10 - 305	1.9 x 1.5		305	2.1	61.0	128	76.3	160	83.9	176	91.5	192	127

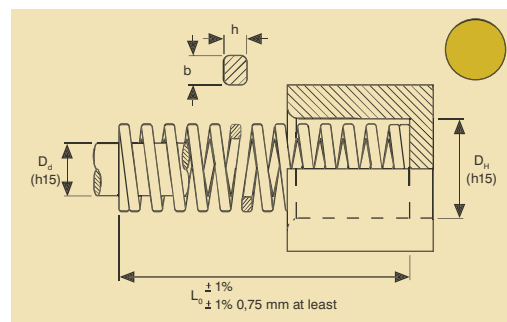
Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	 A	 B	 C	 D	 E				
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	20% L <sub>0</sub>	25% L <sub>0</sub>	27,5% L <sub>0</sub>	30% L <sub>0</sub>	aprox.				
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000	Do not use				
	mm	mm	mm	N/mm	mm	N	mm	N	mm				
R 13 - 025	12.5	6.3	25	42.1	5.0	211	6.3	265	6.9	289	7.5	316	9.8
R 13 - 032			32	33.2	6.4	212	8.0	266	8.8	292	9.6	319	13.6
R 13 - 038			38	29.3	7.6	223	9.5	278	10.5	306	11.4	334	14.6
R 13 - 044			44	24.6	8.8	216	11.0	271	12.1	298	13.2	325	18.1
R 13 - 051			51	19.6	10.2	200	12.8	251	14.0	275	15.3	300	22.3
R 13 - 064			64	15.0	12.8	192	16.0	240	17.6	264	19.2	288	27.3
R 13 - 076			76	13.2	15.2	201	19.0	251	20.9	276	22.8	301	33.1
R 13 - 089			89	11.4	17.8	203	22.3	254	24.5	279	26.7	304	38.9
R 13 - 102			102	8.4	20.4	171	25.5	214	28.1	236	30.6	257	43.8
R 13 - 305			2.4 x 1.9	305	2.8	61.0	171	76.3	214	83.9	235	91.5	256
R 16 - 025	16	8	25	75.7	5.0	379	6.3	477	6.9	520	7.5	568	8.4
R 16 - 032			32	52.8	6.4	338	8.0	422	8.8	465	9.6	507	10.5
R 16 - 038			38	48.5	7.6	369	9.5	461	10.5	507	11.4	553	13.6
R 16 - 044			44	42.8	8.8	377	11.0	471	12.1	518	13.2	565	15.9
R 16 - 051			51	37.1	10.2	378	12.8	475	14.0	520	15.3	568	18.9
R 16 - 064			64	30.3	12.8	388	16.0	485	17.6	533	19.2	582	24.9
R 16 - 076			76	25.7	15.2	391	19.0	488	20.9	537	22.8	586	29.2
R 16 - 089			89	21.7	17.8	386	22.3	484	24.5	531	26.7	579	34.5
R 16 - 102			102	19.3	20.4	394	25.5	492	28.1	541	30.6	591	39.1
R 16 - 115			115	15.7	23.0	361	28.8	452	31.6	497	34.5	542	44.0
R 16 - 305	3.1 x 2.5	305	7.1	61.0	433	76.3	542	83.9	596	91.5	650	104	
R 20 - 025	20	10	25	216	5.0	1080	6.3	1361	6.9	1485	7.5	1620	8.3
R 20 - 032			32	168	6.4	1075	8.0	1344	8.8	1478	9.6	1613	10.9
R 20 - 038			38	129	7.6	980	9.5	1226	10.5	1348	11.4	1471	12.5
R 20 - 044			44	112	8.8	986	11.0	1232	12.1	1355	13.2	1478	15.0
R 20 - 051			51	94.0	10.2	959	12.8	1203	14.0	1318	15.3	1438	17.6
R 20 - 064			64	72.1	12.8	923	16.0	1154	17.6	1269	19.2	1384	22.6
R 20 - 076			76	59.7	15.2	907	19.0	1134	20.9	1248	22.8	1361	27.5
R 20 - 089			89	50.5	17.8	899	22.3	1126	24.5	1236	26.7	1348	31.7
R 20 - 102			102	44.2	20.4	902	25.5	1127	28.1	1240	30.6	1353	37.5
R 20 - 115			115	38.4	23.0	883	28.8	1106	31.6	1214	34.5	1325	42.6
R 20 - 127	4.0 x 3.3	10	127	34.1	25.4	866	31.8	1084	34.9	1191	38.1	1299	45.5
R 20 - 139			139	31.0	28.0	868	35.0	1085	38.2	1185	42.0	1302	50.1
R 20 - 152			152	28.2	30.4	857	38.0	1072	41.8	1179	45.6	1286	55.8
R 20 - 305			305	15.0	61.0	915	76.3	1145	83.9	1258	91.5	1373	114
R 25 - 025	25	12.5	25	375	5.0	1875	6.3	2363	6.9	2578	7.5	2813	8.5
R 25 - 032			32	297	6.4	1901	8.0	2376	8.8	2614	9.6	2851	11.0
R 25 - 038			38	219	7.6	1664	9.5	2081	10.5	2289	11.4	2497	12.6
R 25 - 044			44	187	8.8	1646	11.0	2057	12.1	2263	13.2	2468	14.8
R 25 - 051			51	156	10.2	1591	12.8	1997	14.0	2188	15.3	2387	17.9
R 25 - 064			64	123	12.8	1574	16.0	1968	17.6	2165	19.2	2362	23.1
R 25 - 076			76	99.0	15.2	1505	19.0	1881	20.9	2069	22.8	2257	26.3
R 25 - 089			89	84.0	17.8	1495	22.3	1873	24.5	2056	26.7	2243	30.5
R 25 - 102			102	73.0	20.4	1489	25.5	1862	28.1	2048	30.6	2234	37.3
R 25 - 115			115	65.0	23.0	1495	28.8	1872	31.6	2056	34.5	2243	41.9
R 25 - 127	5.5 x 4.2	12.5	127	57.7	25.4	1466	31.8	1835	34.9	2015	38.1	2198	46.2
R 25 - 139			139	52.7	28.0	1476	35.0	1845	38.2	2014	42.0	2213	49.3
R 25 - 152			152	47.8	30.4	1453	38.0	1816	41.8	1998	45.6	2180	55.7
R 25 - 178			178	41.0	35.6	1460	44.5	1825	49.0	2007	53.4	2189	65.1
R 25 - 203			203	35.8	40.6	1453	50.8	1819	55.8	1999	60.9	2180	74.5
R 25 - 305			305	22.9	61.0	1397	76.3	1747	83.9	1921	91.5	2095	110
R 32 - 038	32	16	38	388	7.6	2949	9.5	3686	10.5	4055	11.4	4423	12.5
R 32 - 044			44	324	8.8	2851	11.0	3564	12.1	3920	13.2	4277	14.9
R 32 - 051			51	272	10.2	2774	12.8	3482	14.0	3815	15.3	4162	17.8
R 32 - 064			64	212	12.8	2714	16.0	3392	17.6	3731	19.2	4070	22.4
R 32 - 076			76	172	15.2	2614	19.0	3268	20.9	3595	22.8	3922	26.1
R 32 - 089			89	141	17.8	2510	22.3	3144	24.5	3451	26.7	3765	30.8
R 32 - 102			102	122	20.4	2489	25.5	3111	28.1	3422	30.6	3733	36.8
R 32 - 115			115	107	23.0	2461	28.8	3082	31.6	3384	34.5	3692	41.4
R 32 - 127			127	93.0	25.4	2362	31.8	2957	34.9	3248	38.1	3543	44.4
R 32 - 139			139	86.0	28.0	2408	35.0	3010	38.2	3287	42.0	3612	48.5
R 32 - 152	7.1 x 5.4	16	152	78.0	30.4	2371	38.0	2964	41.8	3260	45.6	3557	54.8
R 32 - 178			178	67.2	35.6	2392	44.5	2990	49.0	3289	53.4	3588	63.6
R 32 - 203			203	59.1	40.6	2399	50.8	3002	55.8	3299	60.9	3599	72.5
R 32 - 254			254	46.4	50.8	2357	63.5	2946	69.9	3241	76.2	3536	92.8
R 32 - 305			305	38.0	61.0	2318	76.3	2899	83.9	3187	91.5	3477	112
R 40 - 051	40	20	51	350	10.2	3570	12.8	4480	14.0	4909	15.3	5355	17.0
R 40 - 064			64	269	12.8	3443	16.0	4304	17.6	4734	19.2	5165	21.9
R 40 - 076			76	219	15.2	3329	19.0	4161	20.9	4577	22.8	4993	26.7
R 40 - 089			89	190	17.8	3382	22.3	4237	24.5	4650	26.7	5073	31.3
R 40 - 102			102	163	20.4	3325	25.5	4157	28.1	4572	30.6	4988	37.1
R 40 - 115			115	142	23.0	3266	28.8	4090	31.6	4491	34.5	4899	41.0
R 40 - 127			127	128	25.4	3251	31.8	4070	34.9	4470	38.1	4877	46.5
R 40 - 139			139	115	28.0	3220	35.0	4025	38.2	4396	42.0	4830	53.1
R 40 - 152			152	105	30.4	3192	38.0	3990	41.8	4389	45.6	4788	56.1
R 40 - 178			178	89	35.6	3168	44.5	3961	49.0	4357	53.4	4753	67.4
R 40 - 203	8.4 x 6.2	20	203	77	40.6	3126	50.8	3912	55.8	4299	60.9	4689	76.2
R 40 - 254			254	61	50.8	3099	63.5	3874	69.9	4261	76.2	4648	96.2
R 40 - 305			305	51	61.0	3111	76.3	3891	83.9	4278	91.5	4667	115






Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E	
	Hole Diameter	Rod Diameter	Free Length	Spring Constant		20% L <sub>0</sub>		25% L <sub>0</sub>		27,5% L <sub>0</sub>		30% L <sub>0</sub>		aprox.
	b x h			± 10%	+ 3.000.000	N	~ 1.500.000	N	300 - 500.000	N	100 - 200.000	N	Do not use	mm
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N		mm
R 50 - 064	50	25	64	413	12.8	5286	16.0	6608	17.6	7269	19.2	7930	22.4	
R 50 - 076			76	339	15.2	5153	19.0	6441	20.9	7085	22.8	7729	26.5	
R 50 - 089			89	288	17.8	5126	22.3	6422	24.5	7049	26.7	7690	31.5	
R 50 - 102			102	245	20.4	4998	25.5	6248	28.1	6872	30.6	7497	37.6	
R 50 - 115			115	215	23.0	4945	28.8	6192	31.6	6799	34.5	7418	42.7	
R 50 - 127			127	192	25.4	4877	31.8	6106	34.9	6706	38.1	7315	47.5	
R 50 - 139			139	168	28.0	4704	35.0	5880	38.2	6422	42.0	7056	51.8	
R 50 - 152			152	154	30.4	4682	38.0	5852	41.8	6437	45.6	7022	57.8	
R 50 - 178			178	134	35.6	4770	44.5	5963	49.0	6559	53.4	7156	68.5	
R 50 - 203			203	117	40.6	4750	50.8	5944	55.8	6532	60.9	7125	77.6	
R 50 - 254	11.1 x 7.6	38	254	89	50.8	4521	63.5	5652	69.9	6217	76.2	6782	97.9	
R 50 - 305			305	73	61.0	4453	76.3	5570	83.9	6123	91.5	6680	121	
R 63 - 076			76	618	15.2	9394	19.0	11742	20.9	12916	22.8	14090	24.7	
R 63 - 089			89	515	17.8	9167	22.3	11485	24.5	12605	26.7	13751	30.0	
R 63 - 102			102	438	20.4	8935	25.5	11169	28.1	12286	30.6	13403	35.1	
R 63 - 115	63	38	115	370	23.0	8510	28.8	10656	31.6	11701	34.5	12765	37.5	
R 63 - 127			127	333	25.4	8458	31.8	10589	34.9	11630	38.1	12687	45.9	
R 63 - 152			152	269	30.4	8178	38.0	10222	41.8	11244	45.6	12266	56.5	
R 63 - 178			178	226	35.6	8046	44.5	10057	49.0	11063	53.4	12068	66.8	
R 63 - 203			203	198	40.6	8039	50.8	10058	55.8	11053	60.9	12058	78.8	
R 63 - 254	11.6 x 12.3	38	254	155	50.8	7874	63.5	9843	69.9	10827	76.2	11811	102	
R 63 - 305			305	128	61.0	7808	76.3	9766	83.9	10736	91.5	11712	122	

## Sección rectangular ISO 10243

### Muelles carga extra-fuerte

- C** MOLLES CÀRREGA EXTRA-FORTA
- GB** EXTRA-STRONG LOAD SPRINGS
- F** RESSORTS CHARGE EXTRA-FORTE
- D** FEDERN FÜR HÖCHSTE SPANNUNG



Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	 A		 B		 C		 D		 E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	17% L <sub>0</sub>		20% L <sub>0</sub>		22,5% L <sub>0</sub>		25% L <sub>0</sub>		aprox.
	b x h			± 10%	+ 3.000.000		~ 1.500.000		300 - 500.000		100 - 200.000		Do not use
	mm	mm	mm	N/mm	N	N	N	mm	N	mm	N	mm	mm
G 10 - 032	10	5	32	27.9	5.4	151	6.4	179	7.2	201	8.0	223	10.6
G 10 - 038			38	23.7	6.5	154	7.6	180	8.6	203	9.5	225	12.6
G 10 - 044			44	19.2	7.5	144	8.8	169	9.9	190	11.0	211	13.8
G 10 - 051			51	16.5	8.7	144	10.2	168	11.5	189	12.8	211	16.2
G 10 - 064			64	13.2	10.9	144	12.8	169	14.4	190	16.0	211	20.4
G 10 - 076			76	10.9	12.9	141	15.2	166	17.1	186	19.0	207	25.2
G 10 - 305	1.9 x 1.6		305	2.6	51.9	135	61.0	159	68.6	178	76.3	198	111
G 13 - 025	12.5	6.3	25	58.5	4.3	252	5.0	293	5.6	329	6.3	369	8.1
G 13 - 032			32	43.9	5.4	237	6.4	281	7.2	316	8.0	351	9.9
G 13 - 038			38	36.0	6.5	234	7.6	274	8.6	308	9.5	342	12.9
G 13 - 044			44	30.3	7.5	227	8.8	267	9.9	300	11.0	333	14.1
G 13 - 051			51	26.2	8.7	228	10.2	267	11.5	301	12.8	335	17.4
G 13 - 064			64	21.2	10.9	231	12.8	271	14.4	305	16.0	339	21.0
G 13 - 076	2.6 x 2.0	8	76	17.1	12.9	221	15.2	260	17.1	292	19.0	325	26.4
G 13 - 089			89	14.5	15.1	219	17.8	258	20.0	290	22.3	323	31.5
G 13 - 102			102	12.7	17.3	220	20.4	259	23.0	291	25.5	324	36.0
G 13 - 305			305	4.3	51.9	223	61.0	262	68.6	295	76.3	328	111
G 16 - 025			25	118	4.3	507	5.0	590	5.6	664	6.3	743	8.5
G 16 - 032			32	89.0	5.4	481	6.4	570	7.2	641	8.0	712	11.0
G 16 - 038	16	8	38	72.1	6.5	469	7.6	548	8.6	616	9.5	685	13.2
G 16 - 044			44	60.9	7.5	457	8.8	536	9.9	603	11.0	670	14.7
G 16 - 051			51	52.3	8.7	455	10.2	533	11.5	600	12.8	669	17.7
G 16 - 064			64	41.2	10.9	449	12.8	527	14.4	593	16.0	659	21.9
G 16 - 076			76	34.1	12.9	440	15.2	518	17.1	583	19.0	648	27.8
G 16 - 089			89	29.5	15.1	445	17.8	525	20.0	591	22.3	658	31.2
G 16 - 102	3.2 x 2.9	8	102	25.6	17.3	443	20.4	522	23.0	588	25.5	653	37.9
G 16 - 115			115	22.4	19.6	439	23.0	515	25.9	580	28.8	645	44.5
G 16 - 305			305	8.4	51.9	436	61.0	512	68.6	576	76.3	641	113

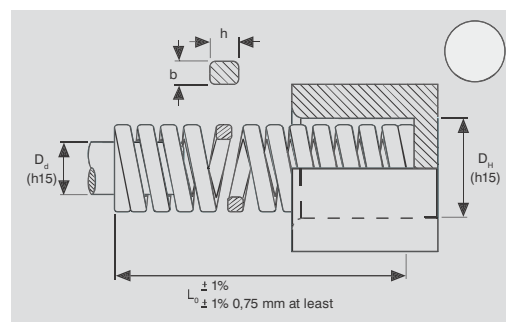







Ref.	D <sub>H</sub> Hole Diameter	D <sub>d</sub> Rod Diameter	L <sub>0</sub> Free Length	R Spring Constant	A 17% L <sub>0</sub>		B 20% L <sub>0</sub>		C 22,5% L <sub>0</sub>		D 25% L <sub>0</sub>		E Do not use
	b x h	mm	mm	± 10%	+ 3.000.000		~ 1.500.000		300 - 500.000		100 - 200.000		mm
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm
G 20 - 025	20	10	25	293	4.3	1260	5.0	1465	5.6	1648	6.3	1846	6.9
G 20 - 032			32	224	5.4	1210	6.4	1434	7.2	1613	8.0	1792	9.4
G 20 - 038			38	177	6.5	1151	7.6	1345	8.6	1513	9.5	1682	12.0
G 20 - 044			44	149	7.5	1118	8.8	1311	9.9	1475	11.0	1639	13.5
G 20 - 051			51	128	8.7	1114	10.2	1306	11.5	1469	12.8	1638	16.2
G 20 - 064			64	99.0	10.9	1079	12.8	1267	14.4	1426	16.0	1584	21.2
G 20 - 076			76	81.7	12.9	1054	15.2	1242	17.1	1397	19.0	1552	24.7
G 20 - 089			89	69.5	15.1	1049	17.8	1237	20.0	1392	22.3	1550	28.8
G 20 - 102			102	60.6	17.3	1048	20.4	1236	23.0	1391	25.5	1545	34.8
G 20 - 115			115	53.0	19.6	1039	23.0	1219	25.9	1371	28.8	1526	39.0
G 20 - 127			127	47.5	21.6	1026	25.4	1207	28.6	1357	31.8	1511	43.0
G 20 - 139			139	43.0	23.8	1023	28.0	1204	31.3	1345	35.0	1505	45.3
G 20 - 152			152	39.0	25.8	1006	30.4	1186	34.2	1334	38.0	1482	50.4
G 20 - 305			305	21.2	51.9	1100	61.0	1293	68.6	1455	76.3	1618	103
G 25 - 025	25	12.5	25	459	4.3	1974	5.0	2295	5.6	2582	6.3	2892	7.3
G 25 - 032			32	374	5.4	2020	6.4	2394	7.2	2693	8.0	2992	10.7
G 25 - 038			38	300	6.5	1950	7.6	2280	8.6	2580	9.5	2850	12.0
G 25 - 044			44	244	7.5	1830	8.8	2147	9.9	2416	11.0	2684	14.4
G 25 - 051			51	208	8.7	1810	10.2	2122	11.5	2392	12.8	2662	17.4
G 25 - 064			64	161	10.9	1755	12.8	2061	14.4	2318	16.0	2576	21.4
G 25 - 076			76	131	12.9	1690	15.2	1991	17.1	2240	19.0	2489	26.9
G 25 - 089			89	111	15.1	1676	17.8	1976	20.0	2220	22.3	2475	30.9
G 25 - 102			102	96.3	17.3	1666	20.4	1965	23.0	2210	25.5	2456	36.7
G 25 - 115			115	85.7	19.6	1680	23.0	1971	25.9	2217	28.8	2468	40.3
G 25 - 127			127	76.3	21.6	1648	25.4	1938	28.6	2180	31.8	2426	45.1
G 25 - 139			139	66.0	23.8	1571	28.0	1848	31.3	2066	35.0	2310	47.6
G 25 - 152			152	63.5	25.8	1638	30.4	1930	34.2	2172	38.0	2413	53.5
G 25 - 178			178	53.9	30.3	1633	35.6	1919	40.1	2159	44.5	2399	63.9
G 25 - 203			203	47.0	34.5	1622	40.6	1908	45.7	2147	50.8	2388	70.2
G 25 - 305			305	30.9	51.9	1604	61.0	1885	68.6	2121	76.3	2358	110
G 32 - 038	32	16	38	480	6.5	3120	7.6	3648	8.6	4128	9.5	4560	11.4
G 32 - 044			44	390	7.5	2925	8.8	3432	9.9	3861	11.0	4290	13.7
G 32 - 051			51	320	8.7	2784	10.2	3264	11.5	3680	12.8	4096	15.6
G 32 - 064			64	269	10.9	2934	12.8	3446	14.4	3876	16.0	4307	20.0
G 32 - 076			76	219	12.9	2825	15.2	3329	17.1	3745	19.0	4161	24.4
G 32 - 089			89	180	15.1	2723	17.8	3209	20.0	3611	22.3	4021	29.7
G 32 - 102			102	155	17.3	2682	20.4	3162	23.0	3557	25.5	3953	35.1
G 32 - 115			115	140	19.6	2744	23.0	3220	25.9	3623	28.8	4032	39.0
G 32 - 127			127	124	21.6	2678	25.4	3150	28.6	3543	31.8	3943	42.8
G 32 - 139			139	112	23.8	2673	28.0	3144	31.3	3512	35.0	3931	48.6
G 32 - 152			152	102	25.8	2632	30.4	3101	34.2	3488	38.0	3876	52.4
G 32 - 178			178	88.2	30.3	2672	35.6	3140	40.1	3532	44.5	3925	60.9
G 32 - 203			203	76.0	34.5	2622	40.6	3086	45.7	3471	50.8	3861	69.2
G 32 - 254			254	60.8	43.2	2627	50.8	3089	57.2	3475	63.5	3861	88.1
G 32 - 305			305	49.0	51.9	2543	61.0	2989	68.6	3363	76.3	3739	104
G 40 - 051	40	20	51	628	8.7	5464	10.2	6406	11.5	7206	12.8	8038	15.0
G 40 - 064			64	487	10.9	5308	12.8	6234	14.4	7013	16.0	7792	19.5
G 40 - 076			76	379	12.9	4889	15.2	5761	17.1	6481	19.0	7201	23.3
G 40 - 089			89	321	15.1	4847	17.8	5714	20.0	6428	22.3	7158	26.7
G 40 - 102			102	281	17.3	4861	20.4	5732	23.0	6449	25.5	7166	33.8
G 40 - 115			115	245	19.6	4802	23.0	5635	25.9	6339	28.8	7056	36.2
G 40 - 127			127	221	21.6	4774	25.4	5613	28.6	6315	31.8	7028	40.7
G 40 - 139			139	195	23.8	4641	28.0	5460	31.3	6103	35.0	6825	44.5
G 40 - 152			152	168	25.8	4334	30.4	5107	34.2	5746	38.0	6384	49.6
G 40 - 178			178	150	30.3	4545	35.6	5340	40.1	6015	44.5	6675	59.9
G 40 - 203			203	132	34.5	4554	40.6	5359	45.7	6029	50.8	6706	67.1
G 40 - 254			254	107	43.2	4622	50.8	5436	57.2	6115	63.5	6795	86.3
G 40 - 305			305	87.8	51.9	4557	61.0	5356	68.6	6025	76.3	6699	104
G 50 - 064	50	25	64	709	10.9	7728	12.8	9075	14.4	10210	16.0	11344	19.3
G 50 - 076			76	572	12.9	7379	15.2	8694	17.1	9781	19.0	10868	24.2
G 50 - 089			89	475	15.1	7173	17.8	8455	20.0	9512	22.3	10593	28.0
G 50 - 102			102	405	17.3	7007	20.4	8262	23.0	9295	25.5	10328	33.5
G 50 - 115			115	352	19.6	6899	23.0	8096	25.9	9108	28.8	10138	38.6
G 50 - 127			127	316	21.6	6826	25.4	8026	28.6	9030	31.8	10049	41.4
G 50 - 139			139	289	23.8	6878	28.0	8092	31.3	9046	35.0	10115	47.3
G 50 - 152			152	239	25.8	6166	30.4	7266	34.2	8174	38.0	9082	50.2
G 50 - 178			178	215	30.3	6515	35.6	7654	40.1	8611	44.5	9568	61.1
G 50 - 203			203	187	34.5	6452	40.6	7592	45.7	8541	50.8	9500	67.7
G 50 - 254			254	153	43.2	6610	50.8	7772	57.2	8744	63.5	9716	87.0
G 50 - 305			305	127	51.9	6591	61.0	7747	68.6	8715	76.3	9690	104
G 63 - 076	63	38	76	952	12.9	12280	15.2	14470	-	-	-	-	15.5
G 63 - 089			89	819	15.1	12360	17.8	14580	-	-	-	-	20.0
G 63 - 102			102	700	17.3	12110	20.4	14280	23.0	16065	25.5	17850	30.7
G 63 - 115			115	620	19.6	12152	23.0	14260	25.9	16043	28.8	17860	34.9
G 63 - 127			127	565	21.6	12204	25.4	14351	28.6	16145	31.8	17967	38.0
G 63 - 152			152	458	25.8	11816	30.4	13923	34.2	15664	38.0	17404	47.2
G 63 - 178			178	384	30.3	11635	35.6	13670	40.1	15379	44.5	17088	55.8
G 63 - 203			203	337	34.5	11627	40.6	13682	45.7	15392	50.8	17120	64.8
G 63 - 254			254	263	43.2	11362	50.8	13360	57.2	15030	63.5	16701	86.7
G 63 - 305			305	218	51.9	11314	61.0	13298	68.6	14960	76.3	16633	106

# Sección rectangular ISO 10243

## Muelles carga ultra-fuerte

- C** MOLLES CÀRREGA ULTRA-FORTA  
**GB** ULTRA-STRONG LOAD SPRINGS  
**F** RESSORTS CHARGE ULTRA-FORTE  
**D** FEDERN FÜR ULTRA-HOHE SPANNUNG

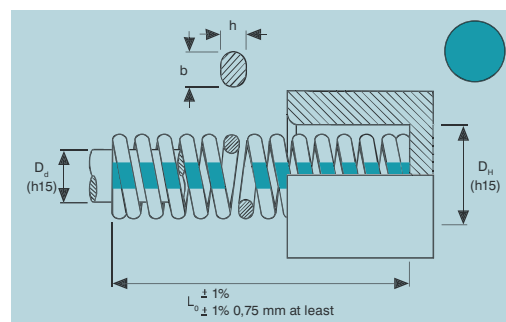







Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R									
	Hole Diameter	Rod Diameter	Free Length	Spring Constant ± 10%	A	B	C	D	E				
	b x h				10% L <sub>0</sub>	12% L <sub>0</sub>	13,5% L <sub>0</sub>	15% L <sub>0</sub>	approx.				
	mm	mm	mm	N/mm	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000	Do not use				
A 25 - 076	25	12,5	76	556	7.6	4226	9.1	5060	10.3	5705	11.4	6338	16
A 25 - 089			89	462	8.9	4112	10.7	4943	12.0	5551	13.4	6168	20
A 25 - 102			102	390	10.2	3978	12.2	4758	13.8	5370	15.3	5967	23
A 25 - 115			115	360	11.5	4140	13.8	4968	15.5	5589	17.3	6210	26
A 25 - 127			127	326	12.7	4140	15.2	4955	17.1	5589	19.1	6210	28
A 25 - 152			152	255	15.2	3876	18.2	4641	20.5	5233	22.8	5814	34
A 25 - 178			178	230	17.8	4094	21.4	4922	24.0	5527	26.7	6141	39
A 25 - 203			203	202	20.3	4101	24.4	4929	27.4	5536	30.5	6151	45
A 25 - 305	5.6 x 7.5		305	136	30.5	4148	36.6	4978	41.2	5600	45.8	6222	63
A 32 - 064	32	16	64	1077	6.4	6892	7.7	8270	8.6	9305	9.6	10337	13
A 32 - 076			76	874	7.6	6642	9.1	7971	10.3	8967	11.4	9964	16
A 32 - 089			89	721	8.9	6419	11	7702	12.0	8663	13.3	9628	20
A 32 - 102			102	620	10	6324	12	7589	13.8	8537	15.3	9486	23
A 32 - 115			115	560	12	6440	14	7728	15.5	8694	17.2	9660	26
A 32 - 127			127	496	13	6299	15	7559	17.1	8504	19.0	9449	28
A 32 - 152			152	408	15	6202	18	7442	20.5	8372	22.8	9302	34
A 32 - 178			178	353	18	6280	21	7536	24.0	8483	26.7	9420	39
A 32 - 203	7.5 x 9.2		203	304	20	6171	24	7405	27.4	8331	30.4	9257	45
A 32 - 254			254	243	25	6177	30	7413	34.3	8332	38.1	9266	62
A 32 - 305			305	196	31	5978	37	7174	41.2	8070	45.7	8967	75
A 40 - 089	40	20	89	880	8.9	7832	10.7	9416	12.0	10573	13.4	11748	20
A 40 - 102			102	762	10.2	7772	12.2	9296	13.8	10493	15.3	11659	23
A 40 - 115			115	679	11.5	7809	13.8	9370	15.5	10541	17.3	11713	26
A 40 - 127			127	622	12.7	7899	15.2	9454	17.1	10664	19.1	11849	28
A 40 - 152			152	509	22.8	7737	18.2	9264	20.5	10445	22.8	11605	36
A 40 - 178			178	429	17.8	7636	21.4	9181	24.0	10309	26.7	11454	43
A 40 - 203			203	374	20.3	7592	24.4	9126	27.4	10249	30.5	11388	49
A 40 - 254			254	296	25.4	7518	30.5	9028	34.3	10150	38.1	11278	62
A 40 - 305	8.5 x 11.0		305	246	30.5	7530	36.6	9004	41.2	10129	45.8	11255	75
A 50 - 089	50	25	89	1410	8.9	12549	10.7	15087	12.0	16941	13.4	18824	19
A 50 - 102			102	1215	10.2	12393	12.2	14823	13.8	16731	15.3	18590	22
A 50 - 115			115	1076	11.5	12374	13.8	14849	15.5	16705	17.3	18561	25
A 50 - 127			127	968	12.7	12294	15.2	14714	17.1	16596	19.1	18440	28
A 50 - 152			152	806	15.2	12251	18.2	14669	20.5	16539	22.8	18377	34
A 50 - 178			178	698	17.8	12424	21.4	14937	24.0	16773	26.7	18637	40
A 50 - 203			203	612	20.3	12424	24.4	14933	27.4	16772	30.5	18635	45
A 50 - 254			254	472	25.4	11989	30.5	14396	34.3	16185	38.1	17983	58
A 50 - 305	11.8 x 13.5		305	388	30.5	11834	36.6	14201	41.2	15976	45.8	17751	70






## Sección hilo ovalada

### Muelles carga ligera. Color plateado-azul

- C** MOLLES CÀRREGA LLEUGERA. COLOR PLATEJAT-BLAU  
**GB** LIGHT LOAD SPRINGS. SILVER-BLUE COLOR  
**F** RESSORTS DE CHARGE LÉGÈRE. ARGENT-BLEU  
**D**



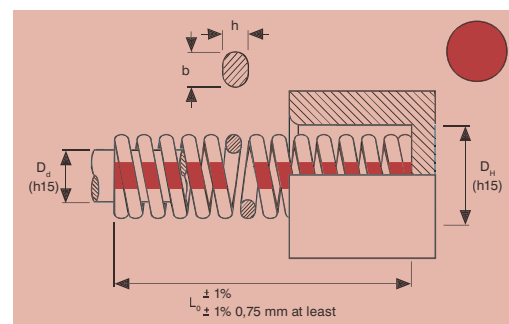
Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	 25% L <sub>0</sub>	 40% L <sub>0</sub>	 45% L <sub>0</sub>	 50% L <sub>0</sub>	 approx.				
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000	Do not use				
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm
MBL 10 - 032	9,5	4,5	32	12.3	8.0	98	12.8	157	14.4	177	16.0	197	17.5
MBL 10 - 038			38	9.8	9.5	93	15.2	149	17.1	168	19.0	186	20.8
MBL 10 - 044			44	8.8	11.0	97	17.6	155	19.8	174	22.0	194	23.9
MBL 10 - 051			51	7.5	12.8	96	20.4	153	23.0	172	25.5	191	28.9
MBL 10 - 064			64	4.9	16.0	78	25.6	125	28.8	141	32.0	157	36.1
MBL 10 - 076			76	3.8	19.0	72	30.4	116	34.2	130	38.0	144	43.2
MBL 10 - 305	1,96 x 1,00		305	1.2	76.3	92	122.0	146	137.3	165	152.5	183	178.7
MBL 13 - 025	13	7	25	18.9	6.3	119	10.0	189	11.3	213	12.5	236	13.2
MBL 13 - 032			32	15.4	8.0	123	12.8	197	14.4	222	16.0	246	18.0
MBL 13 - 038			38	13.5	9.5	128	15.2	205	17.1	231	19.0	257	21.0
MBL 13 - 044			44	11.8	11.0	130	17.6	208	19.8	234	22.0	260	24.0
MBL 13 - 051			51	10.0	12.8	128	20.4	204	23.0	230	25.5	255	28.7
MBL 13 - 064			64	7.6	16.0	122	25.6	195	28.8	219	32.0	243	35.8
MBL 13 - 076	2,50 x 1,46	7	76	5.9	19.0	112	30.4	179	34.2	202	38.0	224	42.7
MBL 13 - 089			89	4.8	22.3	107	35.6	171	40.1	192	44.5	214	50.4
MBL 13 - 102			102	3.4	25.5	87	40.8	139	45.9	156	51.0	173	58.4
MBL 13 - 305			305	1.6	76.3	122	122.0	195	137.3	220	152.5	244	172.0
MBL 16 - 025			25	22.9	6.3	144	10.0	229	11.3	258	12.5	286	12.7
MBL 16 - 032			32	22.5	8.0	180	12.8	288	14.4	324	16.0	360	16.6
MBL 16 - 038	16	8,7	38	18.9	9.5	180	15.2	287	17.1	323	19.0	359	20.0
MBL 16 - 044			44	16.8	11.0	185	17.6	296	19.8	333	22.0	370	23.4
MBL 16 - 051			51	15.4	12.8	197	20.4	314	23.0	353	25.5	393	26.8
MBL 16 - 064			64	10.5	16.0	168	25.6	269	28.8	302	32.0	336	33.2
MBL 16 - 075			76	9.8	19.0	186	30.4	298	34.2	335	38.0	372	41.8
MBL 16 - 089			89	8.4	22.3	187	35.6	299	40.1	336	44.5	374	48.6
MBL 16 - 102	2,80 x 1,88	8,7	102	7.7	25.5	196	40.8	314	45.9	353	51.0	393	55.5
MBL 16 - 115			115	5.9	28.8	170	46.0	271	51.8	305	57.5	339	62.2
MBL 16 - 305			305	2.5	76.3	191	122.0	305	137.3	343	152.5	381	170.9
MBL 19 - 025			25	53.0	6.3	334	10.0	530	11.3	596	12.5	663	12.7
MBL 19 - 032			32	43.1	8.0	345	12.8	552	14.4	621	16.0	690	17.0
MBL 19 - 038			38	34.3	9.5	326	15.2	521	17.1	587	19.0	652	20.3
MBL 19 - 044	19,5	9,5	44	30.4	11.0	334	17.6	535	19.8	602	22.0	669	23.5
MBL 19 - 051			51	25.5	12.8	326	20.4	520	23.0	585	25.5	650	27.4
MBL 19 - 064			64	20.6	16.0	330	25.6	527	28.8	593	32.0	659	34.7
MBL 19 - 076			76	16.2	30.4	492	38.0	616	34.2	554	42.4	687	42.4
MBL 19 - 089			89	14.2	22.3	317	35.6	506	40.1	569	44.5	632	48.9
MBL 19 - 102			102	12.2	25.5	311	40.8	498	45.9	560	51.0	622	56.6
MBL 19 - 115	4,00 x 2,00	9,5	115	11.0	28.8	317	46.0	506	51.8	569	57.5	633	64.1
MBL 19 - 127			127	9.8	31.8	312	50.8	498	57.2	560	63.5	622	71.7
MBL 19 - 140			140	8.3	35.0	291	56.0	465	63.0	523	70.0	581	79.8
MBL 19 - 152			152	7.2	38.0	274	60.8	438	68.4	492	76.0	547	85.9
MBL 19 - 305			305	4.1	76.3	313	122.0	500	137.3	563	152.5	625	167.8
MBL 26 - 025			25,5	13	25	107.9	6.3	680	10.0	1079	11.3	1214	12.5
MBL 26 - 032	32	80.4			8.0	643	12.8	1029	14.4	1158	16.0	1286	16.1
MBL 26 - 038	38	62.8			9.5	597	15.2	955	17.1	1074	19.0	1193	19.1
MBL 26 - 044	44	52.0			11.0	572	17.6	915	19.8	1030	22.0	1144	22.9
MBL 26 - 051	51	43.1			12.8	552	20.4	879	23.0	989	25.5	1099	27.3
MBL 26 - 064	64	35.3			16.0	565	25.6	904	28.8	1017	32.0	1130	33.3
MBL 26 - 076	5,50 x 2,50	13	76	29.4	19.0	559	30.4	894	34.2	1005	38.0	1117	39.5
MBL 26 - 089			89	24.5	22.3	546	35.6	872	40.1	981	44.5	1090	47.7
MBL 26 - 102			102	21.6	25.5	551	40.8	881	45.9	991	51.0	1102	56.4
MBL 26 - 115			115	18.6	28.8	536	46.0	856	51.8	963	57.5	1070	62.2
MBL 26 - 127			127	17.2	31.8	547	50.8	874	57.2	983	63.5	1092	69.4
MBL 26 - 140			140	15.7	35.0	550	56.0	879	63.0	989	70.0	1099	76.9
MBL 26 - 152	5,50 x 2,50	13	152	14.7	38.0	559	60.8	894	68.4	1005	76.0	1117	83.0
MBL 26 - 178			178	12.7	44.5	565	71.2	904	80.1	1017	89.0	1130	98.6
MBL 26 - 203			203	10.8	50.8	549	81.2	877	91.4	987	101.5	1096	111.9
MBL 26 - 305			305	7.4	76.3	565	122.0	903	137.3	1016	152.5	1129	165.4






Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	 A		 B		 C		 D		 E		
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	25% L <sub>0</sub>		40% L <sub>0</sub>		45% L <sub>0</sub>		50% L <sub>0</sub>		aprox.		
	b x h			± 10%	+ 3.000.000	N	~ 1.500.000	N	300 - 500.000	N	100 - 200.000	N	Do not use		
mm	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm		
MBL 32 - 038	32	16	38	88.3	9.5	839	15.2	1342	17.1	1510	19.0	1678	19.2		
MBL 32 - 044			44	76.5	11.0	842	17.6	1346	19.8	1515	22.0	1683	22.4		
MBL 32 - 051			51	60.8	12.8	778	20.4	1240	23.0	1395	25.5	1550	25.8		
MBL 32 - 064			64	49.0	16.0	784	25.6	1254	28.8	1411	32.0	1568	33.1		
MBL 32 - 076			76	41.2	19.0	783	30.4	1252	34.2	1409	38.0	1566	39.9		
MBL 32 - 089			89	35.3	22.3	787	35.6	1257	40.1	1414	44.5	1571	47.1		
MBL 32 - 102			102	30.4	25.5	775	40.8	1240	45.9	1395	51.0	1550	54.4		
MBL 32 - 115			115	27.5	28.8	792	46.0	1265	51.8	1423	57.5	1581	61.1		
MBL 32 - 127			127	23.5	31.8	747	50.8	1194	57.2	1343	63.5	1492	68.2		
MBL 32 - 140			140	21.6	35.0	756	56.0	1210	63.0	1361	70.0	1512	75.7		
MBL 32 - 152			152	19.6	38.0	745	60.8	1192	68.4	1341	76.0	1490	82.3		
MBL 32 - 178			178	17.7	44.5	788	71.2	1260	80.1	1418	89.0	1575	97.3		
MBL 32 - 203			203	14.7	50.8	747	81.2	1194	91.4	1343	101.5	1492	110.2		
MBL 32 - 254			254	12.7	63.5	806	101.6	1290	114.3	1452	127.0	1613	137.9		
MBL 32 - 305			305	9.8	76.3	748	122.0	1196	137.3	1345	152.5	1495	163.8		
MBL 38 - 051	38,5	19,5	51	71.4	12.8	042	20.4	1661	23.0	1639	25.5	2076	26.3		
MBL 38 - 064			64	62.8	16.0	1005	25.6	1608	28.8	1809	32.0	2010	33.1		
MBL 38 - 076			76	51.0	19.0	969	30.4	1550	34.2	1744	38.0	1938	39.9		
MBL 38 - 089			89	43.1	22.6	961	35.6	1534	40.1	1726	44.5	1918	47.4		
MBL 38 - 102			102	36.3	25.5	926	40.8	1481	45.9	1666	51.0	1851	54.7		
MBL 38 - 115			115	32.4	28.8	933	46.0	1490	51.8	1677	57.5	1863	61.4		
MBL 38 - 127			127	29.4	31.8	935	50.8	1494	57.2	1680	63.5	1867	68.1		
MBL 38 - 140			140	27.0	35.0	945	56.0	1512	63.0	1701	70.0	1890	76.8		
MBL 38 - 152			152	24.5	38.0	931	60.8	1490	68.4	1676	76.0	1862	82.5		
MBL 38 - 178			178	21.6	44.5	961	71.2	1539	80.1	1730	89.0	1922	97.9		
MBL 38 - 203			203	18.6	50.8	945	81.2	1510	91.4	1699	101.5	1888	110.3		
MBL 38 - 254			254	14.7	63.5	933	101.6	1494	114.3	1680	127.0	1867	140.0		
MBL 38 - 305			305	10.8	76.3	824	122.0	1318	137.3	1482	152.5	1647	164.1		
MBL 51 - 064			51	25,5	64	156.9	16.0	2510	25.6	4017	28.8	4519	32.0	5021	32.1
MBL 51 - 076					76	132.4	19.0	2516	30.4	4025	34.2	4528	38.0	5031	41.2
MBL 51 - 089	89	114.7			22.3	2558	35.6	4083	40.1	4594	44.5	5104	48.1		
MBL 51 - 102	102	98.1			25.5	2502	40.8	4002	45.9	4503	51.0	5003	54.7		
MBL 51 - 115	115	87.3			28.8	2514	46.0	4016	51.8	4518	57.5	5020	62.2		
MBL 51 - 127	127	77.5			31.8	2465	50.8	3937	57.2	4429	63.5	4921	69.4		
MBL 51 - 140	140	69.6			35.0	2436	56.0	3898	63.0	4385	70.0	4872	76.8		
MBL 51 - 152	152	64.7			38.0	2459	60.8	3934	68.4	4425	76.0	4917	81.9		
MBL 51 - 178	178	53.0			44.5	2359	71.2	3774	80.1	4245	89.0	4717	98.1		
MBL 51 - 203	203	47.1			50.8	239	81.2	3825	91.4	4303	101.5	4781	112.5		
MBL 51 - 254	254	37.5			63.5	2381	101.6	3810	114.3	4286	127.0	4763	141.2		
MBL 51 - 305	305	31.4			76.3	2396	122.0	3831	137.3	4310	152.5	4789	169.9		
MBL 63 - 076	63	38			76	189.3	19.0	3597	30.4	5755	34.2	6474	38.0	7193	38.4
MBL 63 - 089					89	156.9	22.3	3499	35.6	5586	40.1	6284	44.5	6982	46.0
MBL 63 - 102					102	133.4	25.5	3402	40.8	5443	45.9	6123	51.0	6803	52.8
MBL 63 - 115			115	116.7	28.8	3361	46.0	5368	51.8	6039	57.5	6710	59.7		
MBL 63 - 127			127	104.0	31.8	3307	50.8	5283	57.2	5944	63.5	6604	67.4		
MBL 63 - 140			140	93.1	35.0	3259	56.0	5214	63.0	5865	70.0	6517	74.7		
MBL 63 - 152			152	84.3	38.0	3203	60.8	5125	68.4	5766	76.0	6407	81.9		
MBL 63 - 178			178	82.6	44.5	3231	71.2	5169	80.1	5616	89.0	6461	98.5		
MBL 63 - 203			203	62.8	50.8	3190	81.2	5099	91.4	5737	101.5	6374	109.1		
MBL 63 - 254			254	47.1	63.5	2991	101.6	4785	114.3	5384	127.0	5982	140.2		
MBL 63 - 305			305	38.2	76.3	2915	122.0	4660	137.3	5243	152.5	5826	162.9		









## Sección hilo ovalada

### Muelles carga mediana. Color plateado-rojo





- C** MOLLES CÀRREGA MITJANA. COLOR PLATEJAT-VERMELL  
**GB** MEDIUM LOAD SPRINGS. SILVER-RED COLOR  
**F** RESSORTS CHARGE MOYENNE. ARGENT-ROUGE  
**D**



Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E	
	Hole Diameter	Rod Diameter	Free Length	Spring Constant		20% L <sub>0</sub>		25% L <sub>0</sub>		31% L <sub>0</sub>		37% L <sub>0</sub>		aprox.
	b x h			± 10%	+ 3.000.000	N	~ 1.500.000	N	300 - 500.000	N	100 - 200.000	N	Do not use	mm
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm	mm
MHR 10 - 032	9,5	4,7	32	15.2	6.4	97	8.0	122	9.9	151	11.8	179	14.2	
MHR 10 - 038			38	13.2	7.6	100	9.5	125	11.8	155	14.1	186	16.8	
MHR 10 - 044			44	11.3	8.8	99	11.0	124	13.6	154	16.3	184	19.4	
MHR 10 - 051			51	8.4	10.2	86	12.8	108	15.8	133	18.9	159	23.4	
MHR 10 - 064			64	7.2	12.8	92	16.0	115	19.8	143	23.7	171	28.2	
MHR 10 - 076			76	5.8	15.2	88	19.0	110	23.6	137	28.1	163	34.2	
MHR 10 - 305	1.90 x 1.30		305	1.5	61.0	91	76.3	114	94.6	142	112.9	169	133.8	

Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	 20% L <sub>0</sub>	 25% L <sub>0</sub>	 25% L <sub>0</sub>	 31% L <sub>0</sub>	 31% L <sub>0</sub>	 37% L <sub>0</sub>	 37% L <sub>0</sub>	 Do not use	
	b x h	mm	mm	± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000	Do not use				
	mm	mm	mm	N/mm	N	N	N	N	N	N	N	mm	
MHR 13 - 025	13	7	25	30.4	5.0	152	6.3	192	7.8	236	9.3	283	11.9
MHR 13 - 032			32	22.1	6.4	141	8.0	177	9.9	219	11.8	261	16.2
MHR 13 - 038			38	19.1	7.6	145	9.5	181	11.8	225	14.1	269	18.7
MHR 13 - 044			44	16.1	8.8	142	11.0	177	13.6	220	16.3	262	21.3
MHR 13 - 051			51	15.0	10.2	153	12.8	192	15.8	237	18.9	284	25.6
MHR 13 - 064			64	11.8	12.8	151	16.0	189	19.8	234	23.7	280	32.4
MHR 13 - 076			76	9.8	15.2	149	19.0	186	23.6	231	28.1	275	39.0
MHR 13 - 089			89	8.1	17.8	144	22.3	181	27.6	223	32.9	266	45.9
MHR 13 - 102			102	6.3	20.4	129	25.5	161	31.6	199	37.7	238	52.3
MHR 13 - 305			2.50 x 1.50	305	2.1	61.0	128	76.3	160	94.6	199	112.9	237
MHR 16 - 025	16	8.7	25	56.8	5.0	284	6.3	358	7.8	440	9.3	528	10.5
MHR 16 - 032			32	38.2	6.4	244	8.0	306	9.9	379	11.8	451	13.2
MHR 16 - 038			38	33.3	7.6	253	9.5	316	11.8	392	14.1	470	17.2
MHR 16 - 044			44	29.2	8.8	257	11.0	321	13.6	398	16.3	476	19.4
MHR 16 - 051			51	25.5	10.2	260	12.8	326	15.8	403	18.9	482	24.2
MHR 16 - 064			64	19.6	12.8	251	16.0	314	19.8	389	23.7	464	29.2
MHR 16 - 076			76	16.2	15.2	246	19.0	308	23.6	382	28.1	455	36.3
MHR 16 - 089			89	13.7	17.8	244	22.3	306	27.6	378	32.9	451	41.7
MHR 16 - 102			102	12.7	20.4	259	15.5	324	31.6	402	37.7	479	48.9
MHR 16 - 115			115	10.3	23.0	237	28.8	297	35.7	367	42.6	439	53.1
MHR 16 - 305	3.20 x 2.00	305	3.9	61.0	238	76.3	298	94.6	369	112.9	440	141.6	
MHR 19 - 025	19.5	9.5	25	99.0	5.0	495	6.3	624	7.8	767	9.3	921	10.8
MHR 19 - 032			32	77.5	6.4	496	8.0	620	9.9	769	11.8	915	13.9
MHR 19 - 038			38	55.9	7.6	425	9.5	531	11.8	659	14.1	788	17.1
MHR 19 - 044			44	50.0	8.8	440	11.0	550	13.6	682	16.3	815	19.6
MHR 19 - 051			51	42.2	10.2	430	12.8	540	15.8	667	18.9	798	22.4
MHR 19 - 064			64	33.3	12.8	426	16.0	533	19.8	661	23.7	789	28.5
MHR 19 - 076			76	25.0	15.2	380	19.0	475	23.6	589	28.1	703	33.5
MHR 19 - 089			89	23.1	17.8	411	22.3	515	27.6	637	32.9	760	40.2
MHR 19 - 102			102	20.6	20.4	420	25.5	525	31.6	651	37.7	777	45.5
MHR 19 - 115			115	18.6	23.0	428	28.8	536	35.7	663	42.6	792	50.3
MHR 19 - 127	4.00 x 2.40	9.5	127	17.7	25.4	450	31.8	563	39.4	697	47.0	832	56.6
MHR 19 - 140			140	16.2	28.0	454	35.0	567	43.4	703	51.8	839	61.9
MHR 19 - 152			152	13.9	30.4	423	38.0	528	47.1	655	56.2	781	67.6
MHR 19 - 305			305	6.4	61.0	390	76.3	488	94.6	605	112.9	723	136.3
MHR 26 - 025	25.5	13	25	137.3	5.0	687	6.3	865	7.8	1064	9.3	1277	9.9
MHR 26 - 032			32	105.9	6.4	678	8.0	847	9.9	1051	11.8	1250	13.3
MHR 26 - 038			38	88.3	7.6	671	9.5	839	11.8	1040	14.1	1245	16.5
MHR 26 - 044			44	76.5	8.8	673	11.0	842	13.6	1043	16.3	1247	19.3
MHR 26 - 051			51	63.7	10.2	650	12.8	815	15.8	1007	18.9	1204	22.0
MHR 26 - 064			64	49.0	12.8	627	16.0	874	19.8	972	23.7	1161	27.4
MHR 26 - 076			76	41.7	15.2	634	19.0	792	23.6	982	28.1	1172	32.8
MHR 26 - 089			89	35.8	17.8	637	22.3	798	27.6	988	32.9	1178	39.0
MHR 26 - 102			102	31.9	20.4	651	25.5	813	31.6	1009	37.7	1203	44.7
MHR 26 - 115			115	27.0	23.0	621	28.8	778	35.7	963	42.6	1150	49.8
MHR 26 - 127	5.50 x 3.00	13	127	24.5	25.4	622	31.8	779	39.4	965	47.0	1152	56.3
MHR 26 - 140			140	22.6	28.0	633	35.0	791	43.4	981	51.8	1171	63.0
MHR 26 - 152			152	19.6	30.4	598	38.0	745	47.1	924	56.2	1102	66.2
MHR 26 - 178			178	17.7	35.6	630	44.5	788	55.2	977	65.9	1166	77.9
MHR 26 - 203			203	15.7	40.6	637	50.8	798	62.9	988	75.1	1179	88.5
MHR 26 - 305			305	10.8	61.0	659	76.3	824	94.6	1021	112.9	1219	136.6
MHR 32 - 038	32	16	38	196.1	7.6	1490	9.5	1863	11.8	2310	14.1	2765	16.1
MHR 32 - 044			44	176.5	8.8	1553	11.0	1942	13.6	2407	16.3	2877	18.5
MHR 32 - 051			51	147.1	10.2	1500	12.8	1883	15.8	2326	18.9	2780	21.4
MHR 32 - 064			64	107.9	12.8	1381	16.0	1726	19.8	2141	23.7	2557	27.4
MHR 32 - 076			76	90.2	15.2	1371	19.0	1714	23.6	2125	28.1	2535	32.7
MHR 32 - 089			89	74.5	17.8	1326	22.3	1661	27.6	2055	32.9	2451	39.1
MHR 32 - 102			102	64.7	20.4	1320	25.5	1650	31.6	2046	37.7	2439	43.4
MHR 32 - 115			115	55.9	23.0	1286	28.8	1610	35.7	1993	42.6	2381	49.7
MHR 32 - 127			127	47.1	25.4	1196	31.8	1498	39.4	1854	47.0	2214	54.1
MHR 32 - 140			140	44.1	28.0	1235	35.0	1544	43.4	1914	51.8	2284	60.0
MHR 32 - 152	7.20 x 4.00	16	152	40.7	30.4	1237	38.0	1547	47.1	1918	56.2	2287	66.8
MHR 32 - 178			178	34.3	35.6	1221	44.5	1526	55.2	1893	65.9	2260	78.2
MHR 32 - 203			203	31.4	40.6	1275	50.8	1595	62.9	1976	75.1	2358	87.2
MHR 32 - 254			254	22.1	50.8	1123	63.5	1403	78.7	1740	94.0	2077	110.3
MHR 32 - 305			305	20.6	61.0	1257	76.3	1572	94.6	1948	112.9	2326	133.4
MHR 38 - 051	38.5	19.5	51	178.5	10.2	1821	12.8	2285	15.8	2822	18.9	3374	21.5
MHR 38 - 064			64	132.4	12.8	1695	16.0	2118	19.8	2627	23.7	3138	26.3
MHR 38 - 076			76	107.9	15.2	1640	19.0	2050	23.6	2542	28.1	3032	33.2
MHR 38 - 089			89	94.1	17.8	1675	22.3	2098	27.6	2596	32.9	3096	40.0
MHR 38 - 102			102	82.4	20.4	1681	25.5	2101	31.6	2605	37.7	3106	44.7
MHR 38 - 115			115	73.7	23.0	1695	28.8	2123	35.7	2627	42.6	3140	50.1
MHR 38 - 127			127	62.8	25.4	1595	31.8	1997	39.4	2472	47.0	2952	55.2
MHR 38 - 140			140	58.8	28.0	1646	35.0	2058	43.4	2552	51.8	3046	61.3
MHR 38 - 152			152	52.0	30.4	1581	38.0	1976	47.1	2450	56.2	2922	67.6
MHR 38 - 178			178	44.1	35.6	1570	44.5	1962	55.2	2433	65.9	2906	79.2
MHR 38 - 203	8.00 x 5.10	19.5	203	37.3	40.6	1514	50.8	1895	62.9	2347	75.1	2801	89.7
MHR 38 - 254			254	31.4	50.8	1595	63.5	1994	78.7	2472	94.0	2952	113.0
MHR 38 - 305			305	24.5	61.0	1495	76.3	1869	94.6	2316	112.9	2766	138.7

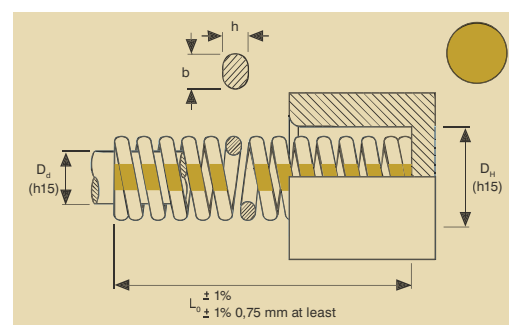







Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R									
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	A	B	C	D	E				
	b x h			± 10%	20% L <sub>0</sub>	25% L <sub>0</sub>	31% L <sub>0</sub>	37% L <sub>0</sub>	aprox.				
	mm	mm	mm	N/mm	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000	Do not use				
MHR 51 - 064	51	25.5	64	210.8	12.8	2698	16.0	3373	19.8	4182	23.7	4996	27.3
MHR 51 - 076			76	171.6	15.2	2608	19.0	3260	23.6	4043	28.1	4822	31.1
MHR 51 - 089			89	142.2	17.8	2531	22.3	3171	27.6	3923	32.9	4678	38.2
MHR 51 - 102			102	119.6	20.4	2440	25.5	3050	31.6	3782	37.7	4509	43.5
MHR 51 - 115			115	107.9	23.0	2482	28.8	3108	35.7	3847	42.6	4597	48.3
MHR 51 - 127			127	100.0	25.4	2540	31.8	3180	39.4	3937	47.0	4700	55.1
MHR 51 - 140			140	90.2	28.0	2526	35.0	3157	43.4	3915	51.8	4672	61.4
MHR 51 - 152			152	84.3	30.4	2563	38.0	3203	47.1	3972	56.2	4738	67.5
MHR 51 - 178			178	71.1	35.6	2531	44.5	3164	55.2	3923	65.9	4685	79.1
MHR 51 - 203			203	61.8	40.6	2509	50.8	3139	62.9	3889	75.1	4641	89.2
MHR 51 - 254	11.40 x 5.80	38	254	49.5	50.8	2515	63.5	3143	78.7	3898	94.0	4653	113.2
MHR 51 - 305			305	43.1	61.0	2629	76.3	3289	94.6	4075	112.9	4866	143.4
MHR 63 - 076			76	300.1	15.2	4562	19.0	5702	23.6	7070	28.1	8433	29.3
MHR 63 - 089	63	38	89	240.3	17.8	4277	22.3	5359	27.6	6630	32.9	4906	36.1
MHR 63 - 102			102	211.8	20.4	4321	25.5	5401	31.6	6697	37.7	4985	43.9
MHR 63 - 115			115	188.3	23.0	4331	28.8	5423	35.7	6713	42.6	8022	48.4
MHR 63 - 127			127	162.8	25.4	4135	31.8	5177	39.4	6409	47.0	7652	55.2
MHR 63 - 140			140	156.9	28.0	1393	35.0	5491	43.4	6809	51.8	8127	63.9
MHR 63 - 152			152	147.1	30.4	4472	38.0	5590	47.1	6931	56.2	8267	66.0
MHR 63 - 178			178	108.9	35.6	3877	44.5	4846	55.2	6009	65.9	7177	76.9
MHR 63 - 203			203	94.1	40.6	3820	50.8	4780	62.9	5922	75.1	7067	86.7
MHR 63 - 229			229	86.3	45.8	3953	57.2	4945	71.0	6126	84.7	7310	99.0
MHR 63 - 254			11.50 x 9.70	38	254	75.5	50.8	3835	63.5	4794	78.7	5945	94.0
MHR 63 - 305	305	64.7			61.0	3947	76.3	4937	94.6	6117	112.9	7305	132.9

## Sección hilo ovalada

### Muelles carga fuerte. Color plateado-oro

- C** MOLLES CÀRREGA FORTA. COLOR PLATEJAT-OR
- GB** HEAVY LOAD SPRINGS. SILVER-GOLD COLOR
- F** RESSORTS CHARGE FORTE. ARGENT-OR
- D**



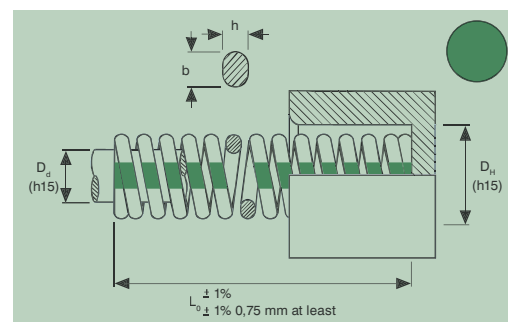
Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	 15% L <sub>0</sub>	 20% L <sub>0</sub>	 25% L <sub>0</sub>	 30% L <sub>0</sub>	 Do not use				
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000					
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm
HGO 10 - 032	9,5	4,7	32	18.6	4.8	89	6.4	119	8.0	149	9.6	179	12.1
HGO 10 - 038			38	15.9	5.7	91	7.6	121	9.5	151	11.4	181	13.2
HGO 10 - 044			44	13.7	6.6	90	8.8	121	11.0	151	13.2	181	15.1
HGO 10 - 051			51	11.8	7.7	91	10.2	120	12.8	150	15.3	180	19.5
HGO 10 - 064			64	8.8	9.6	84	12.8	113	16.0	141	19.2	169	21.8
HGO 10 - 076			76	6.4	11.4	73	15.2	97	19.0	122	22.8	146	27.9
HGO 10 - 305			1.90 x 1.50	305	1.7	45.8	78	61.0	104	76.3	130	91.5	156
HGO 13 - 025	13	7	25	37.3	3.8	142	5.0	187	6.3	233	7.5	280	9.8
HGO 13 - 032			32	32.5	4.8	156	6.4	208	8.0	260	9.6	312	13.6
HGO 13 - 038			38	28.4	5.7	162	7.6	216	9.5	270	11.4	324	14.6
HGO 13 - 044			44	24.5	6.6	162	8.8	216	11.0	270	13.2	323	18.1
HGO 13 - 051			51	18.6	7.7	143	10.2	190	12.8	237	15.3	285	22.3
HGO 13 - 064			64	15.7	9.6	151	12.8	201	16.0	251	19.2	301	27.3
HGO 13 - 076			76	13.7	11.4	156	15.2	208	19.0	260	22.8	312	33.1
HGO 13 - 089			89	10.8	13.4	145	17.8	192	22.3	240	26.7	288	38.9
HGO 13 - 102			102	7.4	15.3	113	20.4	151	25.5	189	30.6	226	43.8
HGO 13 - 305			2.40 x 1.90	305	3.1	45.8	142	61.0	189	76.3	236	91.5	284
HGO 16 - 025	16	8.7	25	78.2	3.8	297	5.0	391	6.3	489	7.5	587	8.4
HGO 16 - 032			32	49.8	4.8	287	6.4	383	8.0	398	9.6	574	10.5
HGO 16 - 038			38	41.0	5.7	291	7.6	388	9.5	390	11.4	581	13.6
HGO 16 - 044			44	43.1	6.6	284	8.8	379	11.0	474	13.2	569	15.9
HGO 16 - 051			51	38.2	7.7	294	10.2	390	12.8	487	15.3	584	18.9
HGO 16 - 064			64	31.4	9.6	301	12.8	402	16.0	502	19.2	603	24.9
HGO 16 - 076			76	12.5	11.4	279	15.2	372	19.0	238	22.8	559	29.2
HGO 16 - 089			89	20.6	13.4	276	17.8	367	22.3	458	26.7	550	34.5
HGO 16 - 102			102	18.6	15.3	285	20.4	379	25.5	474	30.6	569	39.1
HGO 16 - 115			115	15.7	17.3	272	23.0	361	28.8	451	34.5	542	44.0
HGO 16 - 305	3.10 x 2.50	305	5.7	45.8	261	61.0	348	76.3	435	91.5	522	103.6	










Ref.	D <sub>H</sub> Hole Diameter b x h	D <sub>d</sub> Rod Diameter mm	L <sub>0</sub> Free Lengh mm	R Spring Constant ± 10% N/mm	A 15% L <sub>0</sub> + 3.000.000 mm N		B 20% L <sub>0</sub> ~ 1.500.000 mm N		C 25% L <sub>0</sub> 300 - 500.000 mm N		D 30% L <sub>0</sub> 100 - 200.000 mm N		E Do not use mm
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm
HGO 19 - 025	19.5	9.5	25	181.4	3.8	689	5.0	907	6.3	1134	7.5	1361	8.5
HGO 19 - 032			32	137.3	4.8	659	6.4	879	8.0	1098	9.6	1318	11.0
HGO 19 - 038			38	107.9	5.7	615	7.6	820	9.5	1025	11.4	1230	12.7
HGO 19 - 044			44	94.1	6.6	621	8.8	828	11.0	1035	13.2	1242	15.2
HGO 19 - 051			51	78.5	7.7	604	10.2	801	12.8	1001	15.3	1201	17.8
HGO 19 - 064			64	65.0	9.6	624	12.8	832	16.0	1040	19.2	1248	22.9
HGO 19 - 076			76	56.9	11.4	649	15.2	865	19.0	1081	22.8	1297	27.8
HGO 19 - 089			89	47.1	13.4	6341	17.8	838	22.3	1048	26.7	1258	32.1
HGO 19 - 102			102	41.2	15.3	630	20.4	840	25.5	1051	30.6	1261	37.1
HGO 19 - 115			115	36.3	17.3	628	23.0	835	28.8	1044	34.5	1252	43.0
HGO 19 - 127			127	32.4	19.1	619	25.4	823	31.8	1029	38.1	1234	46.8
HGO 19 - 140			140	29.4	21.0	617	28.0	823	35.0	1029	42.0	1235	53.1
HGO 19 - 152			152	25.5	22.8	581	30.4	775	38.0	969	45.6	1263	56.4
HGO 19 - 305			305	14.7	45.8	673	61.0	897	76.3	1121	91.5	1345	115.3
HGO 26 - 025	25.5	13	25	333.4	3.8	1267	5.0	1667	6.3	2084	7.5	2501	7.7
HGO 26 - 032			32	257.4	4.8	1236	6.4	1647	8.0	2059	9.6	2471	10.6
HGO 26 - 038			38	210.8	5.7	1202	7.6	1602	9.5	2003	11.4	2403	12.8
HGO 26 - 044			44	176.5	6.6	1165	8.8	1553	11.0	1942	13.2	2330	15.2
HGO 26 - 051			51	148.1	7.7	1140	10.2	1511	12.8	1888	15.3	2266	17.7
HGO 26 - 064			64	119.6	9.6	1148	12.8	1531	16.0	1914	19.2	2296	22.9
HGO 26 - 076			76	100.0	11.4	1140	15.2	1520	19.0	1900	22.8	2280	27.5
HGO 26 - 089			89	83.4	13.4	1118	17.8	1485	22.3	1856	26.7	2227	32.6
HGO 26 - 102			102	73.6	15.3	1126	20.4	1501	25.5	1877	30.6	2252	39.7
HGO 26 - 115			115	63.7	17.3	1102	23.0	1465	28.8	1831	34.5	2198	42.7
HGO 26 - 127			127	56.9	19.1	1087	25.4	1445	31.8	1807	38.1	2168	47.9
HGO 26 - 140			140	51.0	21.0	1071	28.0	1428	35.0	1785	42.0	2142	52.9
HGO 26 - 152			152	47.1	22.8	1074	30.4	1432	38.0	1790	45.6	2148	57.0
HGO 26 - 178			178	41.2	26.7	100	35.6	1467	44.5	1833	53.4	2200	68.2
HGO 26 - 203			203	36.3	30.5	1107	40.6	1474	50.8	1842	60.9	2211	77.4
HGO 26 - 305			305	22.6	45.8	1035	61.0	1379	76.3	1723	91.5	2068	113.0
HGO 32 - 038	32	16	38	362.9	5.7	2069	7.6	2758	9.5	3448	11.4	4137	12.6
HGO 32 - 044			44	307.9	6.6	2032	8.8	2710	11.0	3387	13.2	4064	13.7
HGO 32 - 051			51	262.8	7.7	2024	10.2	2681	12.8	3351	15.3	4021	16.0
HGO 32 - 064			64	205.9	9.6	1977	12.8	2636	16.0	3294	19.2	3953	21.8
HGO 32 - 076			76	171.6	11.4	1956	15.2	2608	19.0	3260	22.8	3912	26.7
HGO 32 - 089			89	147.1	13.4	1971	17.8	2618	22.3	3273	26.7	3928	29.9
HGO 32 - 102			102	127.5	15.3	1951	20.4	2601	25.5	3251	30.6	3902	37.1
HGO 32 - 115			115	112.8	17.3	1951	23.0	2594	28.8	3243	34.5	3892	41.6
HGO 32 - 127			127	121.0	19.1	1929	25.4	2565	31.8	3842	38.1	3848	45.1
HGO 32 - 140			140	88.3	21.0	1854	28.0	2472	35.0	3091	42.0	3709	51.0
HGO 32 - 152			152	80.9	22.8	1845	30.4	2459	38.0	3074	45.6	3689	54.6
HGO 32 - 178			178	68.6	26.7	1832	35.6	2442	44.5	3053	53.4	3683	65.0
HGO 32 - 203			203	59.8	30.5	1824	40.6	2428	50.8	3035	60.9	3842	75.7
HGO 32 - 254			254	46.9	38.1	1787	50.8	2383	63.5	2978	76.2	3574	95.6
HGO 32 - 305			305	39.2	45.8	1795	61.0	2391	76.3	2989	91.5	3587	118.0
HGO 38 - 051	38.5	19.5	51	313.8	7.7	2416	10.2	3201	12.8	4001	15.3	4801	21.4
HGO 38 - 064			64	230.5	9.6	2213	12.8	2750	16.0	3688	19.2	4426	28.8
HGO 38 - 076			76	196.1	11.4	2236	15.2	2781	19.0	3726	22.8	4471	33.6
HGO 38 - 089			89	171.6	13.4	2299	17.8	3054	22.3	3818	26.7	4582	40.3
HGO 38 - 102			102	142.2	15.3	2176	20.4	2901	25.5	3626	30.6	4351	46.1
HGO 38 - 115			115	124.5	17.3	2154	23.0	2864	28.8	3579	34.5	4295	52.2
HGO 38 - 127			127	112.8	19.1	2154	25.4	2865	31.8	3581	38.1	4298	58.4
HGO 38 - 140			140	103.0	21.0	2163	28.0	2884	35.0	3605	42.0	4326	64.5
HGO 38 - 152			152	93.2	22.8	2125	30.4	2833	38.0	3542	45.6	4250	70.8
HGO 38 - 178			178	80.4	26.7	2147	35.6	2862	44.5	3578	53.4	4293	82.0
HGO 38 - 203			203	70.6	30.5	2153	40.6	2866	50.8	3583	60.9	4300	95.8
HGO 38 - 254			254	56.9	38.1	2168	50.8	2891	63.5	3613	76.2	4336	118.6
HGO 38 - 305			305	47.1	45.8	2157	61.0	2873	76.3	3591	91.5	4310	145.5
HGO 51 - 064	51	25.5	64	392.3	9.6	3766	12.8	5021	16.0	6277	19.2	7532	22.2
HGO 51 - 076			76	328.5	11.4	3745	15.2	4993	19.0	6242	22.8	7490	27.2
HGO 51 - 089			89	274.6	13.4	3680	17.8	4888	22.3	6110	26.7	7332	32.0
HGO 51 - 102			102	235.4	15.3	3602	20.4	4802	25.5	6003	30.6	7203	36.9
HGO 51 - 115			115	205.9	17.3	3562	23.0	4736	28.8	5920	34.5	7104	42.8
HGO 51 - 127			127	186.3	19.1	3558	25.4	4732	31.8	5915	38.1	7098	47.5
HGO 51 - 140			140	166.7	21.0	3501	28.0	4668	35.0	5835	42.0	7001	54.2
HGO 51 - 152			152	147.1	22.8	3354	30.4	4472	38.0	5590	45.6	6708	58.1
HGO 51 - 178			178	127.5	26.7	3404	35.6	4539	44.5	5674	53.4	6809	69.6
HGO 51 - 203			203	112.8	30.5	3440	40.6	4580	50.8	5725	60.9	6870	80.3
HGO 51 - 254			254	88.3	38.1	3364	50.8	4486	63.5	5607	76.2	6728	101.7
HGO 51 - 305			305	70.6	45.8	3233	61.0	4307	76.3	5383	91.5	6460	123.9






## Sección hilo ovalada

Muelles carga extra-fuerte. Color plateado-verde

- C** MOLLES CÀRREGA EXTRA-FORTA. COLOR PLATEJAT-VERD  
**GB** EXTRA-HEAVY LOAD SPRINGS. SILVER-GREEN COLOR  
**F** RESSORTS CHARGE EXTRA-FORTE. ARGENT-VERTE  
**D**



Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R	A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Length	Spring Constant	 15% L <sub>0</sub>	 20% L <sub>0</sub>	 22.5% L <sub>0</sub>	 25% L <sub>0</sub>					
	b x h			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000				Do not use	
mm	mm	mm	N/mm	N	mm	N	mm	N	mm	N	mm	N	mm
XHG 10 - 032	9,5	4,7	32	29.7	4.8	143	6.4	190	7.2	214	8.0	238	10.9
XHG 10 - 038			38	25.4	5.7	145	7.6	193	8.6	217	9.5	241	13.4
XHG 10 - 044			44	20.2	6.6	133	8.8	178	9.9	200	11.0	222	13.8
XHG 10 - 051			51	17.6	7.7	136	10.2	180	11.5	202	12.8	225	16.8
XHG 10 - 064			64	14.0	9.6	134	12.8	179	14.4	202	16.0	224	20.2
XHG 10 - 076			76	11.4	11.4	130	15.2	173	17.1	195	19.0	217	25.9
XHG 10 - 305	1.97 x 1.50		305	2.6	45.8	119	61.0	159	68.6	178	76.3	198	113.5
XHG 13 - 025	13	7	25	56.1	3.8	213	5.0	281	5.6	316	6.3	353	8.5
XHG 13 - 032			32	42.1	4.8	202	6.4	269	7.2	303	8.0	337	10.5
XHG 13 - 038			38	35.0	5.7	200	7.6	266	8.6	299	9.5	333	12.8
XHG 13 - 044			44	29.8	6.6	197	8.8	262	9.9	295	11.0	328	14.0
XHG 13 - 051			51	24.5	7.7	198	10.2	250	11.5	281	12.8	314	16.1
XHG 13 - 064			64	20.2	9.6	194	12.8	259	14.4	291	16.0	323	21.1
XHG 13 - 076	2.50 x 2.00	7	76	15.8	11.4	180	15.2	240	17.1	270	19.0	300	24.5
XHG 13 - 089			89	14.0	13.4	188	17.8	249	20.0	280	22.3	312	30.0
XHG 13 - 102			102	10.8	15.3	165	20.4	220	23.0	248	25.5	275	35.6
XHG 13 - 305			305	4.4	45.8	202	61.0	268	68.6	302	76.3	336	104.7
XHG 16 - 025			25	110.3	3.8	419	5.0	552	5.6	620	6.3	695	7.8
XHG 16 - 032			32	82.3	4.8	395	6.4	527	7.2	593	8.0	658	10.2
XHG 16 - 038	16	8.7	38	66.7	5.7	380	7.6	507	8.6	570	9.5	634	12.2
XHG 16 - 044			44	56.1	6.6	370	8.8	494	9.9	555	11.0	617	14.0
XHG 16 - 051			51	50.8	7.7	391	10.2	518	11.5	583	12.8	650	16.6
XHG 16 - 064			64	38.5	9.6	370	12.8	493	14.4	554	16.0	616	19.5
XHG 16 - 076			76	31.5	11.4	359	15.2	479	17.1	539	19.0	599	25.8
XHG 16 - 089			89	28.0	13.4	375	17.8	498	20.0	561	22.3	624	29.5
XHG 16 - 102	3.10 x 2.76	8.7	102	23.6	15.3	361	20.4	481	23.0	542	25.5	602	33.9
XHG 16 - 115			115	20.6	17.3	356	12.0	474	25.9	533	28.8	593	38.3
XHG 16 - 305			305	7.8	45.8	357	61.0	476	68.6	535	76.3	595	89.9
XHG 19 - 025			25	205.9	3.8	782	5.0	1030	5.6	1158	6.3	1297	7.1
XHG 19 - 032			32	166.7	4.8	800	6.4	1067	7.2	1200	8.0	1334	9.4
XHG 19 - 038			38	132.4	5.7	755	7.5	1006	8.6	1132	9.5	1258	11.6
XHG 19 - 044	19.5	9.5	44	117.7	6.6	777	8.8	1036	9.9	1165	11.0	1295	13.9
XHG 19 - 051			51	98.1	7.7	755	10.2	1001	11.5	1126	12.8	1256	16.2
XHG 19 - 064			64	83.4	9.6	801	12.8	1068	14.4	1201	16.0	1334	21.5
XHG 19 - 076			76	68.6	11.4	782	15.2	1043	17.1	1173	19.0	1303	25.0
XHG 19 - 089			89	54.9	13.4	736	17.8	977	20.0	1099	21.8	1224	30.4
XHG 19 - 102			102	48.1	15.3	736	20.4	981	23.0	1104	25.5	1227	34.9
XHG 19 - 115	4.00 x 3.60	9.5	115	41.2	17.3	713	12.0	948	25.9	1066	28.8	1187	42.0
XHG 19 - 127			127	38.2	19.1	730	15.4	970	28.6	1092	31.5	1215	46.4
XHG 19 - 140			140	33.3	21.0	699	28.0	932	31.5	1049	35.0	1166	49.1
XHG 19 - 152			152	31.4	22.8	716	30.4	955	34.2	1074	38.0	1193	53.5
XHG 19 - 305			305	16.5	45.8	756	61.0	1007	68.6	1132	76.3	1259	115.0
XHG 26 - 025			25.5	13	25	441.3	3.8	1677	5.0	2207	5.6	2482	6.3
XHG 26 - 032	32	343.2			4.8	1647	6.4	2196	7.2	2471	8.0	2746	9.5
XHG 26 - 038	38	323.6			5.7	1845	7.6	2459	8.6	2767	9.5	3074	11.8
XHG 26 - 044	44	264.8			6.6	1748	8.8	2330	9.9	2622	11.0	2913	14.1
XHG 26 - 051	51	201.0			7.7	1548	10.2	2050	11.5	2306	12.8	2573	17.0
XHG 26 - 064	64	156.9			9.6	1506	12.8	2008	14.4	2259	16.0	2510	21.0
XHG 26 - 076	5.50 x 4.70	13	76	127.5	11.4	1454	15.2	1938	17.1	2180	19.0	2423	24.9
XHG 26 - 089			89	107.9	13.4	1446	17.8	1921	20.0	2161	22.3	2406	29.9
XHG 26 - 102			102	96.1	15.3	1470	20.4	1960	23.0	2205	25.5	2451	33.9
XHG 26 - 115			115	84.3	17.3	1458	23.0	1939	25.9	2181	28.8	2428	39.1
XHG 26 - 127			127	75.5	19.1	1442	25.4	1918	28.6	2157	31.8	2401	42.2
XHG 26 - 140			140	63.7	21.0	1338	28.0	1784	31.5	2007	35.0	2230	47.7
XHG 26 - 152	5.50 x 4.70	13	152	62.8	22.8	1432	30.4	1909	34.2	2148	38.0	2386	51.1
XHG 26 - 178			178	53.9	26.7	1439	35.6	1919	40.1	2159	44.5	2399	62.1
XHG 26 - 203			203	46.1	30.5	1406	40.6	1872	45.7	2106	50.8	2342	70.0
XHG 26 - 305			305	33.3	45.8	1525	61.0	2031	68.6	2285	76.3	2541	105.5

Ref.	D <sub>H</sub>	D <sub>d</sub>	L <sub>0</sub>	R		A		B		C		D		E
	Hole Diameter	Rod Diameter	Free Lengh	Spring Constant	15% L <sub>0</sub>		20% L <sub>0</sub>		22.5% L <sub>0</sub>		25% L <sub>0</sub>		aprox.	
	b x h			± 10%	+ 3.000.000	N	~ 1.500.000	N	300 - 500.000	N	100 - 200.000	N	Do not use	
mm	mm	mm	N/mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
XHG 32 - 038	32	16	38	470.7	5.7	2683	7.6	3577	8.6	4024	9.5	4472	10.2	
XHG 32 - 044			44	392.3	6.6	2589	8.8	3452	9.9	3884	11.0	4315	13.0	
XHG 32 - 051			51	333.4	7.7	2567	10.2	3401	11.5	3826	12.8	4268	15.3	
XHG 32 - 064			64	264.8	9.6	2542	12.8	3389	14.4	3813	16.0	4237	20.4	
XHG 32 - 076			76	215.7	11.4	2459	15.2	3279	17.1	3688	19.0	4098	23.2	
XHG 32 - 089			89	166.7	13.4	2234	17.8	2967	20.0	3338	22.3	3717	28.3	
XHG 32 - 102			102	147.1	15.3	2251	20.4	3001	23.0	3376	25.5	3751	33.4	
XHG 32 - 115			115	137.3	17.3	2375	23.0	3158	25.9	3553	28.8	3954	38.6	
XHG 32 - 127			127	127.5	19.1	2435	25.4	3239	28.6	3643	31.8	4055	41.3	
XHG 32 - 140			140	112.8	21.0	2369	28.0	3158	31.5	3553	35.0	3948	45.0	
XHG 32 - 152			152	103.0	22.8	2348	30.4	3131	34.2	3523	38.0	3914	49.9	
XHG 32 - 178			178	92.2	26.7	2462	35.6	3282	40.1	3693	44.5	4103	58.1	
XHG 32 - 203			203	75.5	34.5	2303	40.6	3065	45.7	3448	50.8	3835	66.0	
XHG 32 - 254			254	60.8	38.1	2316	50.8	3089	57.2	3475	63.5	3861	82.7	
XHG 32 - 305			7.40 x 6.00	305	49.0	45.8	2244	61.0	2989	68.6	3363	6.03	3739	99.5
XHG 38 - 051	38.5	19.5	51	539.4	7.7	4153	10.2	5502	11.5	6190	12.8	6904	13.8	
XHG 38 - 064			64	460.9	9.6	4425	12.8	5900	14.4	6637	16.0	7374	19.9	
XHG 38 - 076			76	353.0	11.4	4024	15.2	5366	17.1	6036	19.0	6707	22.9	
XHG 38 - 089			89	294.2	13.4	3942	17.8	5237	20.0	5891	22.3	6561	28.9	
XHG 38 - 102			102	255.0	15.3	3902	20.4	5202	23.0	5852	25.5	6503	31.9	
XHG 38 - 115			115	255.6	17.3	3903	23.0	5189	25.9	6614	28.8	6497	36.2	
XHG 38 - 127			127	201.0	19.1	3839	25.4	5105	28.6	5744	31.8	6392	41.0	
XHG 38 - 140			140	186.3	21.0	3912	28.0	5216	31.5	5868	35.0	6521	45.3	
XHG 38 - 152			152	166.7	22.8	3801	30.4	5068	34.2	5701	38.0	6335	50.2	
XHG 38 - 178			178	147.1	26.7	3928	35.6	5237	40.1	5891	44.5	6546	57.7	
XHG 38 - 203			203	127.5	30.5	3889	40.6	5177	45.7	5824	50.8	6477	68.7	
XHG 38 - 254			254	98.1	38.1	3738	50.8	4983	57.2	5606	63.5	6229	84.3	
XHG 38 - 305			8.50 x 7.50	305	83.4	45.8	3820	61.0	5087	68.6	5723	76.3	6363	105.3
XHG 51 - 064	51	25.5	64	645.3	9.6	6195	12.8	8260	14.4	9292	16.0	10325	16.5	
XHG 51 - 076			76	554.1	11.4	6317	15.2	8422	17.1	9475	19.0	10528	20.9	
XHG 51 - 089			89	451.1	13.4	6045	17.8	8030	20.0	9033	22.3	10060	23.9	
XHG 51 - 102			102	402.1	15.3	6152	20.4	8203	23.0	9228	25.5	10254	29.3	
XHG 51 - 115			115	343.2	17.3	5937	23.0	7894	25.9	8880	28.8	9884	32.3	
XHG 51 - 127			127	313.8	19.1	5994	25.4	7971	28.6	8967	31.8	9979	36.7	
XHG 51 - 140			140	284.4	21.0	5972	28.0	7963	31.5	8959	35.0	9954	40.7	
XHG 51 - 152			152	264.8	22.8	6037	30.4	8050	34.2	9056	38.0	10062	44.1	
XHG 51 - 178			178	225.6	26.7	6024	35.6	8031	40.1	9035	44.8	10039	51.6	
XHG 51 - 203			203	193.7	30.5	5908	40.6	7864	45.7	8847	50.8	9840	57.6	
XHG 51 - 254			254	153.0	38.1	5829	50.8	7772	57.2	8744	63.5	9716	73.3	
XHG 51 - 305			11.40 x 9.30	305	146.1	45.8	6691	61.0	8912	68.6	10026	76.3	11147	89.2

## Muelles matrickería - carga ligera

- C** MOLLES PER A MATRIUS - CÀRREGA LLEUGERA  
**GB** SPRING FOR DIES - LIGHT LOAD  
**F** RESSORTS POUR MATRICES À CHARGE LÉGÈRE  
**D** FEDERN FÜR MATRIZEN MIT LEICHTER BELASTUNG

## El original

El único con mas recorrido

## Familia:

**L1**

## Norma:

Sistema americano adaptado ISO 10243

## Material:

Acero cromo vanadio trefilado 52 Si Cr Ni 5

## Acabado:

Pintura de color azul

## Descripción:

Muelles compresión

## Medidas:

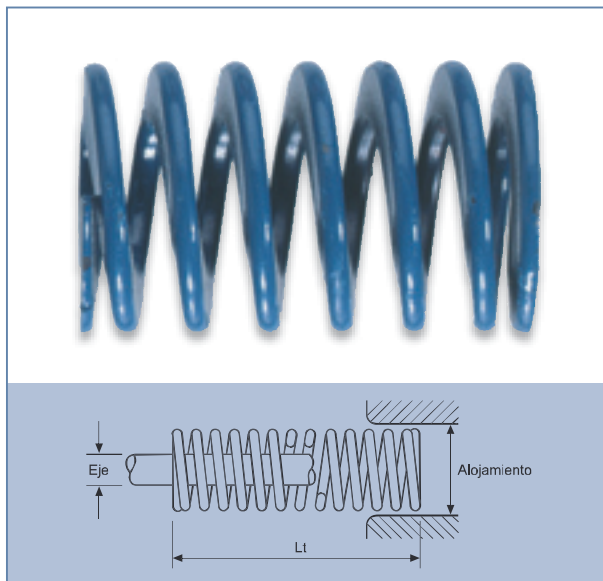
Ver tabla

## Envasado:

Granel

## Aplicación:

Matrices, troqueles, moldes, termomoldeo, estampaciones metálicas y utillajes de alta resistencia



Aloj.	Eje	Largo	Hilo	Ref.
10	4,5	1,7x1	25	L1S10025
			32	L1S10032
			38	L1S10038
			44	L1S10044
			51	L1S10051
			64	L1S10064
			76	L1S10076
			305	L1S10305
13	7	2,4x1,3	25	L1S13025
			32	L1S13032
			38	L1S13038
			44	L1S13044
			51	L1S13051
			64	L1S13064
			76	L1S13076
			89	L1S13089
			305	L1S13305
16	8,5	3,2x1,5	25	L1S16025
			32	L1S16032
			38	L1S16038
			44	L1S16044
			51	L1S16051
			64	L1S16064
			76	L1S16076
			89	L1S16089
			102	L1S16102
			305	L1S16305
19	10	4,1x1,9	25	L1S19025
			32	L1S19032
			38	L1S19038
			44	L1S19044
			51	L1S19051
			64	L1S19064
			76	L1S19076
			89	L1S19089
			102	L1S19102
			115	L1S19115
			127	L1S19127
			139	L1S19139
			152	L1S19152
			305	L1S19305

Aloj.	Eje	Largo	Hilo	Ref.
26	12,5	5,4X2,6	25	L1S26025
			32	L1S26032
			38	L1S26038
			44	L1S26044
			51	L1S26051
			64	L1S26064
			76	L1S26076
			89	L1S26089
			102	L1S26102
			115	L1S26115
			127	L1S26127
			139	L1S26139
			152	L1S26152
			178	L1S26178
			203	L1S26203
305	L1S26305			
32	16	7,1X3	38	L1S32038
			44	L1S32044
			51	L1S32051
			64	L1S32064
			76	L1S32076
			89	L1S32089
			102	L1S32102
			115	L1S32115
			127	L1S32127
			139	L1S32139
			152	L1S32152
			178	L1S32178
			203	L1S32203
			254	L1S32254
			305	L1S32305

Aloj.	Eje	Largo	Hilo	Ref.
38	19		8,3X3,4	L1S38051
		51		L1S38064
		64		L1S38076
		76		L1S38089
		89		L1S38102
		102		L1S38115
		115		L1S38127
		127		L1S38139
		139		L1S38152
		152		L1S38178
		178		L1S38203
		203		L1S38254
		254		L1S38305
51	25		11,3x5,0	L1S51064
		64		L1S51076
		76		L1S51089
		89		L1S51102
		102		L1S51115
		115		L1S51127
		127		L1S51139
		139		L1S51152
		152		L1S51178
		178		L1S51203
		203		L1S51254
		254		L1S51305
		305		



## Muelles matricería - carga media

<b>C</b>	MOLLES PER A MATRIUS - CÀRREGA MITJANA
<b>GB</b>	SPRING FOR DIES - MEDIUM LOAD
<b>F</b>	RESSORTS POUR MATRICES À CHARGE MOYENNE
<b>D</b>	FEDERN FÜR MATRIZEN MIT MITTLERER BELASTUNG

**Familia:**
**L2**
**Norma:**

Sistema americano adaptado ISO 10243

**Material:**

Acero cromo vanadio trefilado 52 Si Cr Ni 5

**Acabado:**

Pintura color rojo

**Descripción:**

Muelles compresión

**Medidas:**

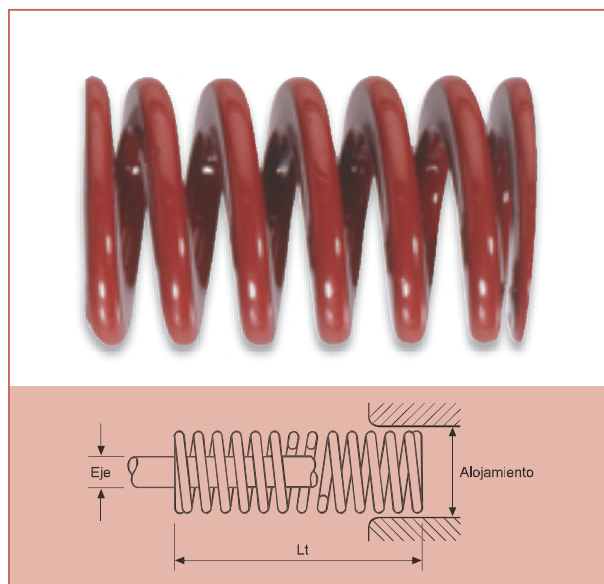
Ver tabla

**Envasado:**

Granel

**Aplicación:**

Matrices, troqueles, moldes, termomoldeo, estampaciones metálicas y utillajes de alta resistencia



Aloj.	Eje	Largo	Hilo	Ref.
10	4,5	1,8X1,1	25	L2S10025
			32	L2S10032
			38	L2S10038
			44	L2S10044
			51	L2S10051
			64	L2S10064
			76	L2S10076
13	7	2,5X1,3	305	L2S10305
			25	L2S13025
			32	L2S13032
			38	L2S13038
			44	L2S13044
			51	L2S13051
			64	L2S13064
16	8,5	3,2X1,9	76	L2S13076
			89	L2S13089
			305	L2S13305
			25	L2S16025
			32	L2S16032
			38	L2S16038
			44	L2S16044
19	10	4,0X2,4	51	L2S16051
			64	L2S16064
			76	L2S16076
			89	L2S16089
			102	L2S16102
			305	L2S16305
			25	L2S19025
			32	L2S19032
			38	L2S19038
			44	L2S19044
			51	L2S19051
			64	L2S19064
			76	L2S19076
			89	L2S19089
			102	L2S19102
			115	L2S19115
			127	L2S19127
			139	L2S19139
			152	L2S19152
			305	L2S19305

Aloj.	Eje	Largo	Hilo	Ref.
26	12,5	5,4X3,0	25	L2S26025
			32	L2S26032
			38	L2S26038
			44	L2S26044
			51	L2S26051
			64	L2S26064
			76	L2S26076
32	16	7,1X4,0	89	L2S26089
			102	L2S26102
			115	L2S26115
			127	L2S26127
			139	L2S26139
			152	L2S26152
			178	L2S26178
			203	L2S26203
			305	L2S26305
			38	L2S32038
			44	L2S32044
			51	L2S32051
			64	L2S32064
			76	L2S32076
			89	L2S32089
			102	L2S32102
			115	L2S32115
			127	L2S32127
			139	L2S32139
			152	L2S32152
			178	L2S32178
			203	L2S32203
			254	L2S32254
			305	L2S32305

Aloj.	Eje	Largo	Hilo	Ref.
38	19	7,8X4,7	51	L2S38051
			64	L2S38064
			76	L2S38076
			89	L2S38089
			102	L2S38102
			115	L2S38115
			127	L2S38127
			139	L2S38139
			152	L2S38152
			178	L2S38178
			203	L2S38203
			254	L2S38254
			305	L2S38305
			64	L2S51064
			76	L2S51076
			89	L2S51089
			102	L2S51102
			115	L2S51115
			127	L2S51127
			139	L2S51139
		10,9X5,6	152	L2S51152
			178	L2S51178
			203	L2S51203
			254	L2S51254
			305	L2S51305

## Muelles matrickería - carga fuerte

- C** MOLLES PER A MATRIUS - CÀRREGA FORTA  
**GB** SPRING FOR DIES - STRONG LOAD  
**F** RESSORTS POUR MATRICES À FORTE CHARGE  
**D** FEDERN FÜR MATRIZEN MIT STARKER BELASTUNG

## Familia:

**L3**

## Norma:

Sistema americano adaptado ISO 10243

## Material:

Acero cromo vanadio trefilado 52 Si Cr Ni 5

## Acabado:

Pintura color oro

## Descripción:

Muelles compresión

## Medidas:

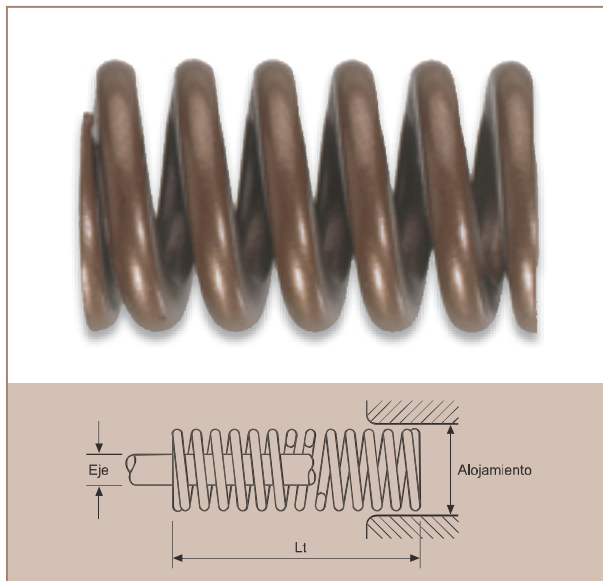
Ver tabla

## Envasado:

Granel

## Aplicación:

Matrices, troqueles, moldes, termomoldeo, estampaciones metálicas y utillajes de alta resistencia



Aloj.	Eje	Largo	Hilo	Ref.
10	4,5	1,8X1,4	25	L3S10025
			32	L3S10032
			38	L3S10038
			44	L3S10044
			51	L3S10051
			64	L3S10064
			76	L3S10076
13	7	2,5X1,9	305	L3S10305
			25	L3S13025
			32	L3S13032
			38	L3S13038
			44	L3S13044
			51	L3S13051
			64	L3S13064
16	8,5	3,2X2,4	76	L3S13076
			89	L3S13089
			305	L3S13305
			25	L3S16025
			32	L3S16032
			38	L3S16038
			44	L3S16044
19	10	4,1X3,2	51	L3S16051
			64	L3S16064
			76	L3S16076
			89	L3S16089
			102	L3S16102
			305	L3S16305
			25	L3S19025
			32	L3S19032
			38	L3S19038
			44	L3S19044
			51	L3S19051
			64	L3S19064
			76	L3S19076
			89	L3S19089
			102	L3S19102
			115	L3S19115
			127	L3S19127
			139	L3S19139
			152	L3S19152
			305	L3S19305

Aloj.	Eje	Largo	Hilo	Ref.
26	12,5	5,7X4,0	25	L3S26025
			32	L3S26032
			38	L3S26038
			44	L3S26044
			51	L3S26051
			64	L3S26064
			76	L3S26076
32	16	7,4X5,0	89	L3S26089
			102	L3S26102
			115	L3S26115
			127	L3S26127
			139	L3S26139
			152	L3S26152
			178	L3S26178
			203	L3S26203
			305	L3S26305
			38	L3S32038
			44	L3S32044
			51	L3S32051
			64	L3S32064
			76	L3S32076
			89	L3S32089
			102	L3S32102
			115	L3S32115
			127	L3S32127
			139	L3S32139
			152	L3S32152
			178	L3S32178
			203	L3S32203
			254	L3S32254
			305	L3S32305

Aloj.	Eje	Largo	Hilo	Ref.
38	19	8,7X5,7	51	L3S38051
			64	L3S38064
			76	L3S38076
			89	L3S38089
			102	L3S38102
			115	L3S38115
			127	L3S38127
51	25	11,0X7,2	139	L3S38139
			152	L3S38152
			178	L3S38178
			203	L3S38203
			254	L3S38254
			305	L3S38305
			64	L3S51064
			76	L3S51076
			89	L3S51089
			102	L3S51102
			115	L3S51115
			127	L3S51127
			139	L3S51139
			152	L3S51152
			178	L3S51178
			203	L3S51203
			254	L3S51254
			305	L3S51305

## Muelles matricería - carga extra fuerte

- C** MOLLES PER A MATRIUS - CÀRREGA EXTRA FORTA  
**GB** SPRING FOR DIES - EXTRA-STRONG LOAD  
**F** RESSORTS POUR MATRICES À CHARGE EXTRA-FORTE  
**D** FEDERN FÜR MATRIZEN MIT EXTRA-STARKER BELASTUNG

**Familia:**

**L4**

**Norma:**

Sistema americano adaptado ISO 10243

**Material:**

Acero cromo vanadio trefilado 52 Si Cr Ni 5

**Acabado:**

Pintura color verde

**Descripción:**

Muelles compresión

**Medidas:**

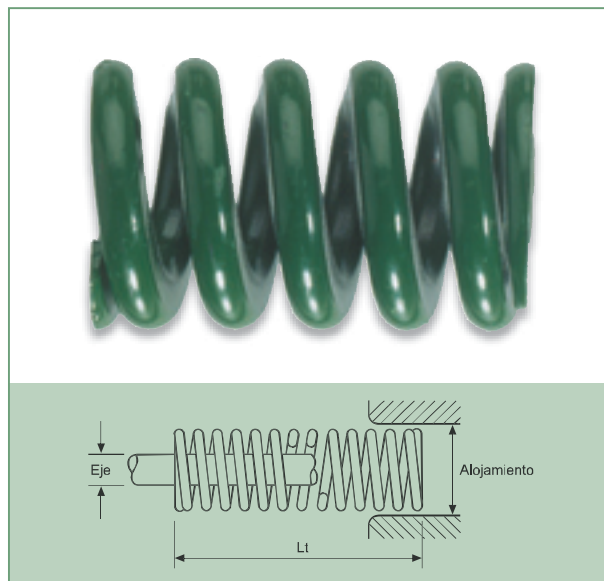
Ver tabla

**Envasado:**

Granel

**Aplicación:**

Matrices, troqueles, moldes, termomoldeo, estampaciones metálicas y utillajes de alta resistencia



Aloj.	Eje	Largo	Hilo	Ref.
10	4,5	2,0X1,5	25	L4S10025
			32	L4S10032
			38	L4S10038
			44	L4S10044
			51	L4S10051
			64	L4S10064
			76	L4S10076
13	7	2,4X2,3	305	L4S10305
			25	L4S13025
			32	L4S13032
			38	L4S13038
			44	L4S13044
			51	L4S13051
			64	L4S13064
16	8,5	3,2X2,8	76	L4S13076
			89	L4S13089
			305	L4S13305
			25	L4S16025
			32	L4S16032
			38	L4S16038
			44	L4S16044
19	10	4,0X3,4	51	L4S16051
			64	L4S16064
			76	L4S16076
			89	L4S16089
			102	L4S16102
			305	L4S16305
			25	L4S19025
			32	L4S19032
			38	L4S19038
			44	L4S19044
			51	L4S19051
			64	L4S19064
			76	L4S19076
			89	L4S19089
			102	L4S19102
			115	L4S19115
			127	L4S19127
			139	L4S19139
			152	L4S19152
			305	L4S19305

Aloj.	Eje	Largo	Hilo	Ref.
26	12,5	5,8X4,8	32	L4S26032
			38	L4S26038
			44	L4S26044
			51	L4S26051
			64	L4S26064
			76	L4S26076
			89	L4S26089
32	16	7,4X5,7	102	L4S26102
			115	L4S26115
			127	L4S26127
			139	L4S26139
			152	L4S26152
			178	L4S26178
			203	L4S26203
			305	L4S26305
			38	L4S32038
			44	L4S32044
			51	L4S32051
			64	L4S32064
			76	L4S32076
			89	L4S32089
			102	L4S32102
			115	L4S32115
			127	L4S32127
			139	L4S32139
			152	L4S32152
			178	L4S32178
			203	L4S32203
			254	L4S32254
			305	L4S32305

Aloj.	Eje	Largo	Hilo	Ref.
38	19	8,7X7,6	51	L4S38051
			64	L4S38064
			76	L4S38076
			89	L4S38089
			102	L4S38102
			115	L4S38115
			127	L4S38127
51	25	11,3X9,3	139	L4S38139
			152	L4S38152
			178	L4S38178
			203	L4S38203
			254	L4S38254
			305	L4S38305
			64	L4S51064
			76	L4S51076
			89	L4S51089
			102	L4S51102
			115	L4S51115
			127	L4S51127
			139	L4S51139
			152	L4S51152
			178	L4S51178
			203	L4S51203
			254	L4S51254
			305	L4S51305

## Muelles de compresión

Titular: .....

Teléfono: .....

Población: .....

Fax: .....

Provincia: .....

Persona de contacto: .....

Fecha: .....

PRESUPUESTO ☐PEDIDO ☐

(Precio y plazo de entrega)

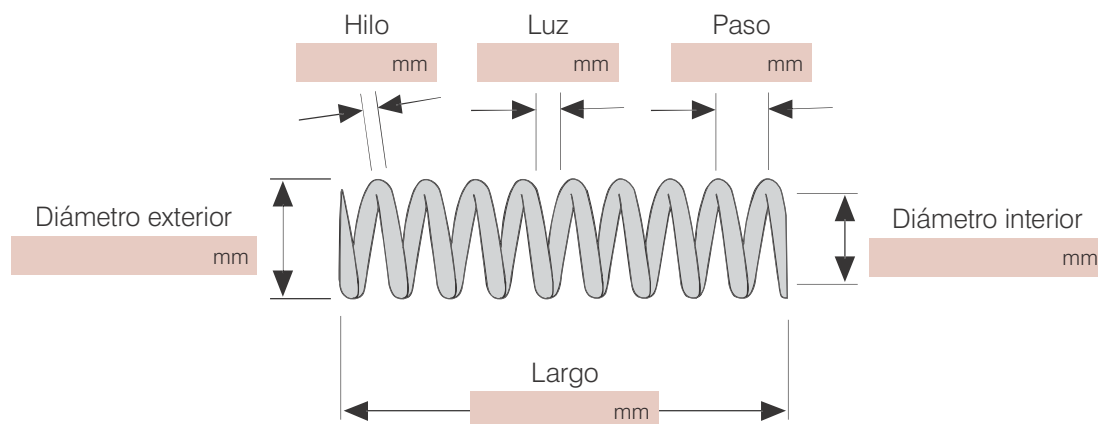
Cantidad:  Material: ☐ Acero normal ☐ C. piano ☐ Inox ☐ Otros: .....Acabado del muelle (Zincado, superficial, galvanizado, pavonado, etc.): Espiras totales:  Sentido de enrollamiento: ☐ Derecho ☐ Izquierdo Extremos: ☐ Refrentados (Planos) ☐ Sin refrentar

Indicar si se ha fabricado anteriormente (núm. de factura o fecha aproximada): .....

Aplicación o iso: .....

Observaciones: .....

.....

☐ Comp.☐ Cónico☐ Bi-cónico☐ Sin fin

En caso de no indicar el sentido de arrollamiento del muelle (derechas o izquierdas), sería indistinto, dando prioridad el sentido de arrollamiento en que se encuentre la maquina de fabricación en el momento de la confirmación del pedido, con el fin de agilizar el servicio.

## Muelles de tracción

Titular: .....  
 Población: .....  
 Provincia: .....  
 Persona de contacto: .....

Teléfono: .....  
 Fax: .....  
 Fecha: .....

**PRESUPUESTO** ☐  
 (Precio y plazo de entrega)

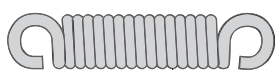
**PEDIDO** ☐

**Cantidad:**  **Material:** ☐ Acero normal ☐ C. piano ☐ Inox ☐ Otros.....

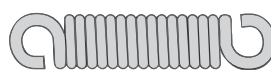
**Acabado del muelle (Zincado, superficial, galvanizado, pavonado, etc.):**

**Sentido enrollamiento:** ☐ Derecho ☐ Izquierdo

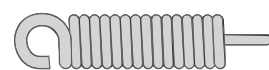
**Anillas:** ☐ **Ganchos:** ☐



☐ Ganchos rectos



☐ Ganchos invertidos

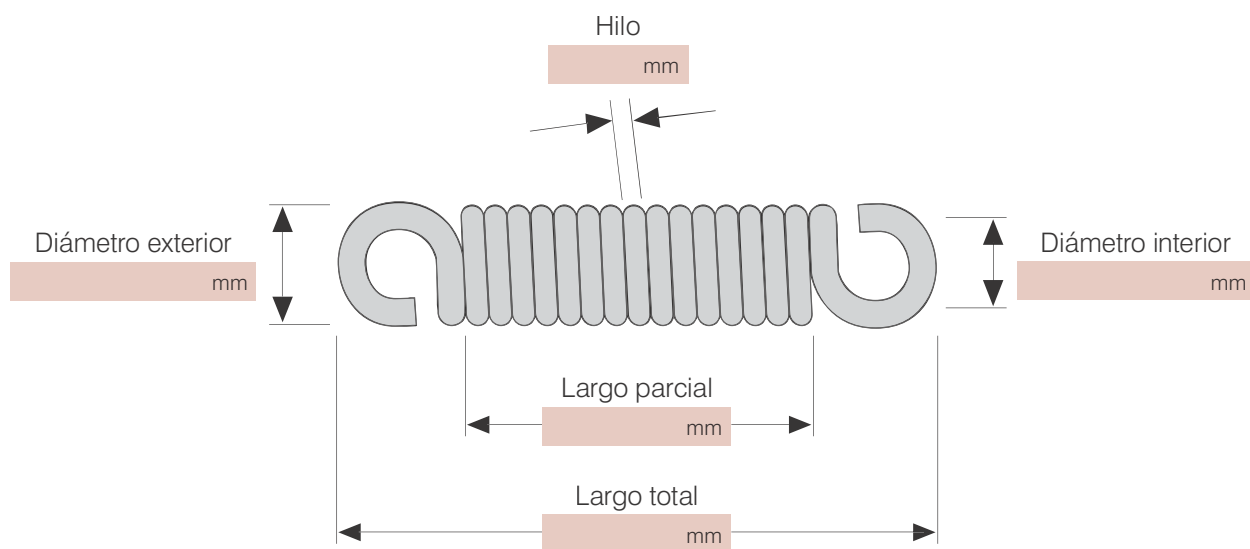


☐ Ganchos en cruz

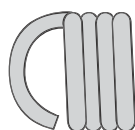
**Indicar si se ha fabricado anteriormente (núm. de factura o fecha aproximada):** .....

**Aplicación o iso:** .....

**Observaciones:** .....



☐ Inglesa



☐ Alemana



☐ Mordaza



☐ Giratorio

En caso de no indicar el sentido de arrollamiento del muelle (derechas o izquierdas), sería indistinto, dando prioridad el sentido de arrollamiento en que se encuentre la maquina de fabricación en el momento de la confirmación del pedido, con el fin de agilizar el servicio.



## Muelles de torsión

Titular: .....

Teléfono: .....

Población: .....

Fax: .....

Provincia: .....

Persona de contacto: .....

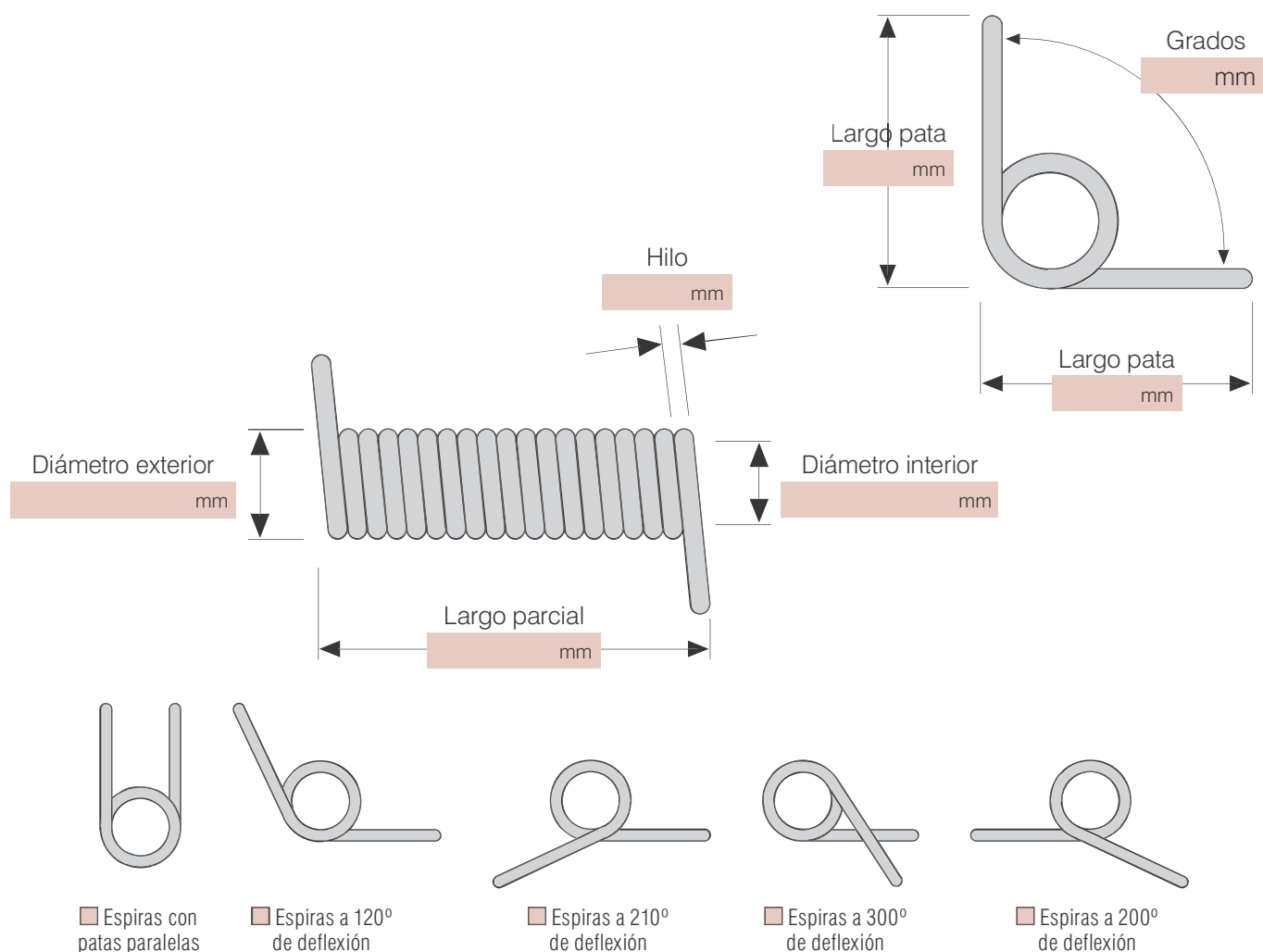
Fecha: .....

PRESUPUESTO ☐  
(Precio y plazo de entrega)PEDIDO ☐Cantidad:  Material: ☐ Acero normal ☐ C. piano ☐ Inox ☐ Otros: .....Acabado del muelle (Zincado, superficial, galvanizado, pavonado, etc.): Sentido enrollamiento: ☐ Derecho ☐ Izquierdo Largo de patas: 

Indicar si se ha fabricado anteriormente (núm. de factura o fecha aproximada): .....

Aplicación o iso: .....

Observaciones: .....



En caso de no indicar el sentido de arrollamiento del muelle (derechas o izquierdas), sería indistinto, dando prioridad el sentido de arrollamiento en que se encuentre la maquina de fabricación en el momento de la confirmación del pedido, con el fin de agilizar el servicio.