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高品质弹簧制造专家

—— 客户至上/技术争先/团结协作/求真务实 ——



河南凯斯亚实业有限公司
Henan Kathysia Industrial Co., Ltd.

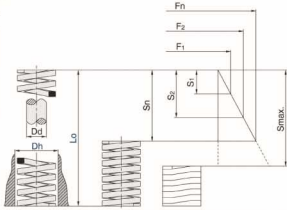
矩形弹簧—极轻小载荷—CIF ISO10243标准

DIE SPRINGS—SUPER MINIMAL LOAD—CIF ISO 10243 STANDARD

材料	颜色 (color)	Code
SW63C-V615	绿 (light green)	CIF

L	公差
25-64	±3%
76-115	±2.5%
127-305	±2%

- ① Dd: 符合H18标准
- ② Dh: 符合H8标准
- ③ 公差标准与 DIN 2055相近



- ④ S1: 长工作寿命压缩量
- ⑤ S2: 平均工作寿命压缩量
- ⑥ S3: 基本工作行程
- ⑦ Smax: 压缩行程



极轻小载荷用 SUPER MINIMAL LOAD

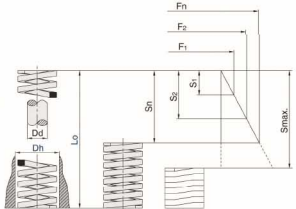
Order NO.	Dh	Dd	Lo	R (N/mm)	S1	F1	S2	F2	S3	F3	压缩行程
CIF20x25	20	10	25	29.4	7.5	261	10.0	294	12.5	308	13.9
CIF20x32			32	22.6	9.6	217	12.8	289	16.0	302	18.2
CIF20x40			40	18.6	11.4	181	15.2	283	19.2	302	22.0
CIF20x48			48	15.7	13.2	150	17.6	274	22.0	300	26.0
CIF20x51			51	13.7	15.3	110	20.4	279	25.5	349	30.9
CIF20x54			54	11.3	19.2	217	23.6	289	30.0	302	36.3
CIF20x76			76	9.8	22.8	223	30.4	298	36.0	372	47.0
CIF20x89			89	8.3	26.7	222	35.6	295	44.5	369	55.7
CIF20x102			102	7.4	30.6	228	40.8	302	51.0	377	64.2
CIF20x115			115	6.4	34.5	221	46.0	294	57.5	368	72.9
CIF20x127			127	5.9	38.1	225	50.8	300	63.5	375	80.7
CIF20x139			139	5.4	41.7	225	55.6	300	69.5	375	88.4
CIF20x152			152	4.9	45.6	223	59.8	298	75.0	372	96.7
CIF20x165			165	4.5	49.2	229	64.0	305	80.5	381	104.3
CIF20x178			178	4.1	52.8	230	68.0	306	86.0	382	112.0
CIF20x191			191	3.7	56.4	230	72.0	306	91.5	382	119.7
CIF20x204			204	3.4	60.0	230	76.0	306	97.0	382	127.4
CIF20x217			217	3.1	63.6	230	80.0	306	102.5	382	135.1
CIF20x230			230	2.8	67.2	230	84.0	306	108.0	382	142.8
CIF25x25			25	12.5	25	53.9	7.5	404	10.0	439	12.5
CIF25x32	32	42.7			9.6	326	12.8	362	16.0	460	18.2
CIF25x40	40	35.8			11.4	269	15.2	344	19.2	460	22.0
CIF25x48	48	30.8			13.2	223	17.6	344	22.0	460	26.0
CIF25x51	51	27.0			15.3	143	20.4	341	25.5	460	30.9
CIF25x54	54	24.1			17.4	174	23.6	349	30.0	460	36.3
CIF25x76	76	21.6			19.2	145	26.6	355	36.0	491	47.0
CIF25x89	89	19.1			22.8	146	30.4	350	44.5	460	55.7
CIF25x102	102	17.2			26.6	140	35.6	341	51.0	460	64.2
CIF25x115	115	15.8			30.4	140	40.8	346	57.5	460	72.9
CIF25x127	127	14.8			34.2	140	46.0	343	63.5	460	80.7
CIF25x139	139	13.8			38.0	140	51.2	343	69.5	460	88.4
CIF25x152	152	12.8			41.8	140	56.4	341	75.0	460	96.7
CIF25x165	165	11.8			45.6	140	61.6	341	80.5	460	104.3
CIF25x178	178	10.8			49.4	140	66.8	341	86.0	460	112.0
CIF25x191	191	10.0			53.2	140	72.0	341	91.5	460	119.7
CIF25x204	204	9.2			57.0	140	77.2	341	97.0	460	127.4
CIF25x217	217	8.4			60.8	140	82.4	341	102.5	460	135.1
CIF25x230	230	7.6			64.6	140	87.6	341	108.0	460	142.8
CIF32x25	32	16			25	48	7.5	462	10.0	507	12.5
CIF32x32			32	43.1	9.6	381	12.8	434	16.0	528	18.2
CIF32x40			40	37.3	11.4	322	15.2	406	19.2	528	22.0
CIF32x48			48	32.4	13.2	273	17.6	392	22.0	528	26.0
CIF32x51			51	28.4	15.3	193	20.4	381	25.5	528	30.9
CIF32x54			54	24.5	17.4	224	23.6	389	30.0	528	36.3
CIF32x76			76	21.6	19.2	164	26.6	387	36.0	528	47.0
CIF32x89			89	19.1	22.8	165	30.4	382	44.5	528	55.7
CIF32x102			102	17.2	26.6	159	35.6	381	51.0	528	64.2
CIF32x115			115	15.8	30.4	159	40.8	381	57.5	528	72.9
CIF32x127			127	14.8	34.2	159	46.0	381	63.5	528	80.7
CIF32x139			139	13.8	38.0	159	51.2	381	69.5	528	88.4
CIF32x152			152	12.8	41.8	159	56.4	381	75.0	528	96.7
CIF32x165			165	11.8	45.6	159	61.6	381	80.5	528	104.3
CIF32x178			178	10.8	49.4	159	66.8	381	86.0	528	112.0
CIF32x191			191	10.0	53.2	159	72.0	381	91.5	528	119.7
CIF32x204			204	9.2	57.0	159	77.2	381	97.0	528	127.4
CIF32x217			217	8.4	60.8	159	82.4	381	102.5	528	135.1
CIF32x230			230	7.6	64.6	159	87.6	381	108.0	528	142.8
CIF40x25			40	20	25	48	7.5	462	10.0	507	12.5
CIF40x32	32	43.1			9.6	381	12.8	434	16.0	528	18.2
CIF40x40	40	37.3			11.4	322	15.2	406	19.2	528	22.0
CIF40x48	48	32.4			13.2	273	17.6	392	22.0	528	26.0
CIF40x51	51	28.4			15.3	193	20.4	381	25.5	528	30.9
CIF40x54	54	24.5			17.4	224	23.6	389	30.0	528	36.3
CIF40x76	76	21.6			19.2	164	26.6	387	36.0	528	47.0
CIF40x89	89	19.1			22.8	165	30.4	382	44.5	528	55.7
CIF40x102	102	17.2			26.6	159	35.6	381	51.0	528	64.2
CIF40x115	115	15.8			30.4	159	40.8	381	57.5	528	72.9
CIF40x127	127	14.8			34.2	159	46.0	381	63.5	528	80.7
CIF40x139	139	13.8			38.0	159	51.2	381	69.5	528	88.4
CIF40x152	152	12.8			41.8	159	56.4	381	75.0	528	96.7
CIF40x165	165	11.8			45.6	159	61.6	381	80.5	528	104.3
CIF40x178	178	10.8			49.4	159	66.8	381	86.0	528	112.0
CIF40x191	191	10.0			53.2	159	72.0	381	91.5	528	119.7
CIF40x204	204	9.2			57.0	159	77.2	381	97.0	528	127.4
CIF40x217	217	8.4			60.8	159	82.4	381	102.5	528	135.1
CIF40x230	230	7.6			64.6	159	87.6	381	108.0	528	142.8
CIF50x25	50	25			25	48	7.5	462	10.0	507	12.5
CIF50x32			32	43.1	9.6	381	12.8	434	16.0	528	18.2
CIF50x40			40	37.3	11.4	322	15.2	406	19.2	528	22.0
CIF50x48			48	32.4	13.2	273	17.6	392	22.0	528	26.0
CIF50x51			51	28.4	15.3	193	20.4	381	25.5	528	30.9
CIF50x54			54	24.5	17.4	224	23.6	389	30.0	528	36.3
CIF50x76			76	21.6	19.2	164	26.6	387	36.0	528	47.0
CIF50x89			89	19.1	22.8	165	30.4	382	44.5	528	55.7
CIF50x102			102	17.2	26.6	159	35.6	381	51.0	528	64.2
CIF50x115			115	15.8	30.4	159	40.8	381	57.5	528	72.9
CIF50x127			127	14.8	34.2	159	46.0	381	63.5	528	80.7
CIF50x139			139	13.8	38.0	159	51.2	381	69.5	528	88.4
CIF50x152			152	12.8	41.8	159	56.4	381	75.0	528	96.7
CIF50x165			165	11.8	45.6	159	61.6	381	80.5	528	104.3
CIF50x178			178	10.8	49.4	159	66.8	381	86.0	528	112.0
CIF50x191			191	10.0	53.2	159	72.0	381	91.5	528	119.7
CIF50x204			204	9.2	57.0	159	77.2	381	97.0	528	127.4
CIF50x217			217	8.4	60.8	159	82.4	381	102.5	528	135.1
CIF50x230			230	7.6	64.6	159	87.6	381	108.0	528	142.8

矩形弹簧-轻载荷用-CIL ISO10243标准
DIE SPRINGS-LIGHT DUTY SPRINGS-CIL ISO 10243 STANDARD

材料 Material	颜色 Colour	Code
镀锌合金钢 Galvanized special steel	绿 Green	CIL

L	公差
25-64	±3%
76-115	±2.5%
127-305	±2%

- Dd: 符合H18标准
- Dh: 符合H18标准
- 公差标准与DIN 2095匹配



- S1: 长工作寿命压缩量
- S2: 平均工作寿命压缩量
- S3: 最大工作行程
- Smax: 压密行程

Order NO.	Dh	Dd	Lo	R (N/mm)	25%	30%	40%	压密行程 travel stroke			
				S ₁	F ₁	F ₂	S ₃	F ₃			
CIL10x25	10	5	25	10.0	6.3	63	7.5	75	10.0	10.0	13.5
CIL10x32	10	5	32	9.5	8.0	88	9.6	82	12.8	10.9	17.5
CIL10x38	10	5	38	8.8	9.5	85	11.4	78	15.2	10.3	20.8
CIL10x44	10	5	44	8.0	11.0	65	13.2	79	17.6	10.6	23.9
CIL10x51	10	5	51	5.0	12.8	64	15.3	77	20.4	10.2	28.9
CIL10x64	10	5	64	4.3	16.0	69	19.2	63	25.6	11.0	36.1
CIL10x76	10	5	76	3.2	19.0	61	22.8	73	30.4	9.7	43.2
CIL10x305	10	5	305	1.1	76.3	84	91.5	101	122.0	134	178.7
CIL12.5x25	12.5	6.3	25	17.9	6.3	113	7.5	134	10.0	17.9	13.2
CIL12.5x32	12.5	6.3	32	16.4	8.0	131	9.6	157	12.8	21.0	18.0
CIL12.5x38	12.5	6.3	38	13.6	9.5	129	11.4	155	15.2	20.7	21.0
CIL12.5x44	12.5	6.3	44	12.1	11.0	133	13.2	160	17.6	21.3	24.0
CIL12.5x51	12.5	6.3	51	11.4	12.8	146	15.3	174	20.4	23.3	28.7
CIL12.5x64	12.5	6.3	64	9.3	16.0	149	19.2	179	25.6	23.8	35.8
CIL12.5x76	12.5	6.3	76	7.1	19.0	135	22.8	162	30.4	21.6	42.7
CIL12.5x89	12.5	6.3	89	5.4	22.3	120	26.7	144	35.6	19.2	50.4
CIL12.5x305	12.5	6.3	305	1.4	76.3	107	91.6	128	122.0	171	172.0
CIL16x25	16	8	25	23.4	8.3	147	7.5	176	10.0	23.4	15.6
CIL16x32	16	8	32	22.9	8.0	183	9.6	220	12.8	29.3	16.4
CIL16x38	16	8	38	19.3	9.5	183	11.4	220	15.2	29.3	19.7
CIL16x44	16	8	44	17.1	11.0	188	13.2	226	17.6	30.1	22.5
CIL16x51	16	8	51	15.7	12.8	201	15.3	240	20.4	32.0	26.5
CIL16x64	16	8	64	10.7	16.0	171	19.2	205	25.6	27.4	33.3
CIL16x76	16	8	76	10.0	19.0	190	22.8	228	30.4	30.4	40.2
CIL16x89	16	8	89	8.6	22.3	192	26.7	230	35.6	30.6	47.6
CIL16x102	16	8	102	7.8	25.5	199	30.6	239	40.8	31.8	55.4
CIL16x305	16	8	305	2.5	76.3	191	91.5	229	122.0	306	166.3
CIL20x25	20	10	25	55.8	6.3	352	7.5	419	10.0	55.8	12.1
CIL20x32	20	10	32	45.0	8.0	362	9.6	432	12.8	57.8	15.3
CIL20x38	20	10	38	33.3	9.5	316	11.4	380	15.2	50.8	18.9
CIL20x44	20	10	44	30.0	11.0	330	13.2	396	17.6	52.8	21.5
CIL20x51	20	10	51	24.5	12.8	314	15.3	375	20.4	50.0	25.0
CIL20x64	20	10	64	20.0	16.0	320	19.2	384	25.6	51.2	31.1
CIL20x76	20	10	76	16.0	19.0	304	22.8	365	30.4	49.6	37.3
CIL20x89	20	10	89	14.0	22.3	312	26.7	374	35.6	49.8	44.5
CIL20x102	20	10	102	12.0	25.5	306	30.6	367	40.8	49.0	51.1
CIL20x115	20	10	115	10.9	28.8	314	34.5	376	46.0	50.1	58.2
CIL20x127	20	10	127	9.6	31.8	309	38.4	408	51.2	48.1	64.9
CIL20x139	20	10	139	8.4	35.0	294	42.0	383	56.0	47.0	71.5
CIL20x152	20	10	152	7.5	38.0	285	45.6	342	60.8	45.6	78.8
CIL20x305	20	10	305	4.0	76.3	305	91.5	366	122.0	488	157.4

Order NO.	Dh	Dd	Lo	R (N/mm)	25%	30%	40%	压密行程 travel stroke			
				S ₁	F ₁	F ₂	S ₃	F ₃			
CIL25x25	25	12.5	25	100.0	6.3	630	7.5	750	10.0	1000	12.1
CIL25x32	25	12.5	32	80.3	8.0	642	9.6	771	12.8	1028	15.2
CIL25x38	25	12.5	38	62.0	9.5	665	11.4	707	15.2	943	18.3
CIL25x44	25	12.5	44	52.9	11.0	582	13.2	698	17.6	931	21.4
CIL25x51	25	12.5	51	44.0	12.8	563	15.3	673	20.4	898	24.9
CIL25x64	25	12.5	64	35.2	16.0	563	19.2	676	25.6	901	31.4
CIL25x76	25	12.5	76	28.0	19.0	532	22.8	638	30.4	851	37.6
CIL25x89	25	12.5	89	24.0	22.3	503	26.7	641	35.6	854	43.5
CIL25x102	25	12.5	102	21.1	25.5	538	30.6	646	40.8	861	51.1
CIL25x115	25	12.5	115	18.7	28.8	539	34.5	645	46.0	860	58.1
CIL25x127	25	12.5	127	16.7	31.8	531	38.1	635	51.2	849	65.1
CIL25x139	25	12.5	139	15.3	35.0	538	42.0	643	56.0	857	70.4
CIL25x152	25	12.5	152	14.0	38.0	532	45.6	638	60.8	851	77.1
CIL25x176	25	12.5	176	12.5	44.5	568	53.4	668	71.2	890	83.1
CIL25x203	25	12.5	203	10.4	50.6	505	60.9	635	81.2	844	106.7
CIL25x305	25	12.5	305	7.0	76.3	534	91.5	641	122.0	854	156.9
CIL32x38	32	16	38	94.0	9.5	893	11.4	1072	15.2	1429	16.3
CIL32x44	32	16	44	79.5	11.0	875	13.2	1049	17.6	1399	21.5
CIL32x51	32	16	51	67.0	12.8	858	15.3	1025	20.4	1367	25.5
CIL32x64	32	16	64	53.0	16.0	848	19.2	1018	25.6	1357	31.9
CIL32x76	32	16	76	44.0	19.0	836	22.8	1003	30.4	1338	38.6
CIL32x89	32	16	89	37.2	22.3	830	26.7	993	35.6	1324	46.5
CIL32x102	32	16	102	32.0	25.5	816	30.6	979	40.8	1306	53.2
CIL32x115	32	16	115	29.0	28.8	835	34.5	1001	46.0	1334	60.0
CIL32x127	32	16	127	25.0	31.8	795	38.1	953	50.8	1270	66.7
CIL32x139	32	16	139	23.0	35.0	805	42.0	966	56.0	1289	71.8
CIL32x152	32	16	152	21.5	38.0	817	45.6	980	60.8	1307	76.1
CIL32x176	32	16	176	18.2	44.5	810	53.4	972	71.2	1296	94.4
CIL32x203	32	16	203	15.8	50.6	803	60.9	952	81.2	1283	107.1
CIL32x254	32	16	254	12.5	63.5	794	76.2	953	101.6	1270	136.5
CIL32x305	32	16	305	10.3	76.3	768	91.5	942	122.0	1257	162.7
CIL40x51	40	20	51	92.0	12.8	1178	15.3	1408	20.4	1877	25.5
CIL40x64	40	20	64	73.0	16.0	1168	19.2	1402	25.6	1869	31.4
CIL40x76	40	20	76	63.0	19.0	1129	22.8	1386	30.4	1846	37.8
CIL40x89	40	20	89	51.0	22.3	1137	26.7	1382	35.6	1816	44.3
CIL40x102	40	20	102	43.0	25.5	1097	30.6	1316	40.8	1754	50.7
CIL40x115	40	20	115	39.6	28.8	1140	34.5	1356	46.0	1822	56.1
CIL40x127	40	20	127	36.1	31.8	1177	38.1	1418	51.2	1885	64.6
CIL40x139	40	20	139	32.0	35.0	1120	42.0	1344	56.0	1792	70.1
CIL40x152	40	20	152	28.0	38.0	1064	45.6	1277	60.8	1702	76.6
CIL40x176	40	20	176	25.2	44.5	1121	53.4	1346	71.2	1794	90.4
CIL40x203	40	20	203	22.1	50.6	1150	60.9	1382	81.2	1843	102.4
CIL40x254	40	20	254	17.0	63.5	1080	76.2	1296	101.6	1727	128.8
CIL40x305	40	20	305	14.8	76.3	1129	91.5	1354	122.0	1806	156.1
CIL50x64	50	25	64	156.0	16.0	2496	19.2	2995	25.6	3994	31.2
CIL50x76	50	25	76	135.0	19.0	2375	22.8	2896	30.4	3857	37.2
CIL50x89	50	25	89	109.0	22.3	2431	26.7	2910	35.6	3880	43.6
CIL50x102	50	25	102	94.0	25.5	2397	30.6	2876	40.8	3835	50.3
CIL50x115	50	25	115	81.0	28.8	2333	34.5	2795	46.0	3726	56.1
CIL50x127	50	25	127	71.0	31.8	2359	38.1	2706	51.2	3607	63.7
CIL50x139	50	25	139	66.5	35.0	2408	42.0	2793	56.0	3704	69.5
CIL50x152	50	25	152	60.0	38.0	2280	45.6	2736	60.8	3648	76.5
CIL50x176	50	25	176	52.0	44.5	2314	53.4	2777	71.2	3702	91.7
CIL50x203	50	25	203	44.0	50.6	2295	60.9	2838	81.2	3813	104.7
CIL50x254	50	25	254	35.0	63.5	2273	76.2	2697	101.6	3556	130.6
CIL50x305	50	25	305	28.5	76.3	2125	91.5	2608	122.0	3477	154.9
CIL63x76	63	31.5	76	189.0	19.0	3691	22.8	4309	30.4	5746	36.5
CIL63x89	63	31.5	89	163.0	22.3	3595	26.7	4213	35.6	5617	43.4
CIL63x102	63	31.5	102	141.0	25.5	3341	30.6	4009	40.8	5345	49.7
CIL63x115	63	31.5	115	116.0	28.8	3341	34.5	4002	46.0	5336	55.6
CIL63x127	63	31.5	127	103.0	31.8	3275	38.1	3924	50.8	5232	62.7
CIL63x139	63	31.5	139	88.0	35.0	3203	42.0	3844	56.0	5125	77.1
CIL63x176	63	31.5	176	71.5	44.5	3162	53.4	3818	71.2	5091	92.2
CIL63x2											

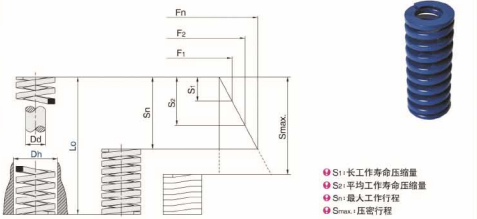
矩形弹簧 - 中载荷用 - CIM ISO10243标准

DIE SPRINGS - MEDIUM DUTY SPRINGS - CIM ISO 10243 STANDARD

□ 材质 Material	颜色 Colour	Code
镀锌合金钢弹簧 Special alloy	蓝 Blue	CIM

L	公差
25 - 64	±3%
76 - 115	±2.5%
127 - 305	±2%

- Dd: 符合H18标准
- Dh: 符合H8标准
- S: 公差符合与DIN 2095相近



- S1: 长工作寿命压缩量
- S2: 半个工作寿命压缩量
- S3: 最大工作行程
- Smax: 压缩行程



Order NO.	Dh	Dd	Lo	R (N/mm)	S1	25%	F1	S2	30%	F2	S3	37.5%	F3	F4	压缩行程 travel stroke	
CIM10x25	10	5	25	16.0	6.3	101	7.5	120	9.4	150	14.2					
CIM10x32			32	13.0	8.0	104	9.6	125	12.0	156	10.2					
CIM10x38			38	11.9	9.5	113	11.4	136	14.3	170	16.8					
CIM10x44			44	10.3	11.0	113	13.2	136	16.5	170	19.4					
CIM10x51			51	8.9	12.8	114	15.3	136	19.1	170	23.4					
CIM10x64		64	7.5	16.0	120	19.2	144	24.0	180	28.2						
CIM10x76		76	5.3	19.0	101	22.8	121	28.5	151	34.2						
CIM10x305		305	1.6	76.3	122	91.5	146	114.4	183	133.8						
CIM12.5x25		12.5	6.3	25	30.0	6.3	189	7.5	225	9.4	282	11.9				
CIM12.5x32				32	24.8	8.0	198	9.6	238	12.0	298	16.2				
CIM12.5x38	38			21.4	9.5	203	11.4	244	14.3	306	18.7					
CIM12.5x44	44			18.5	11.0	204	13.2	244	16.5	305	21.3					
CIM12.5x51	51			15.5	12.8	198	15.3	237	19.1	296	25.6					
CIM12.5x64	64		12.1	16.0	194	19.2	232	24.0	290	32.4						
CIM12.5x76	76		10.2	19.0	194	22.8	233	28.5	291	39.0						
CIM12.5x89	89		8.4	22.3	187	26.7	224	33.4	281	45.9						
CIM12.5x305	305		2.1	76.3	163	91.5	122	114.4	240	152.5						
CIM16x25	16		8	25	49.4	6.3	311	7.5	371	9.4	464	10.5				
CIM16x32		32		37.1	8.0	297	9.6	366	12.0	445	13.2					
CIM16x38		38		33.9	9.5	322	11.4	362	14.3	485	17.2					
CIM16x44		44		30.0	11.0	330	13.2	386	16.5	495	19.4					
CIM16x51		51		26.4	12.8	338	15.3	404	19.1	504	24.2					
CIM16x64		64	20.5	16.0	328	19.2	384	24.0	492	29.2						
CIM16x76		76	17.8	19.0	338	22.8	406	28.5	507	36.3						
CIM16x89		89	15.2	22.3	339	26.7	406	33.4	508	41.7						
CIM16x102		102	13.5	25.5	344	30.6	413	36.3	517	46.9						
CIM16x305		305	4.8	76.3	366	91.5	439	114.4	549	149.1						
CIM20x25	20	10	25	98.0	6.3	617	7.5	735	9.4	821	10.5					
CIM20x32			32	72.6	8.0	581	9.6	687	12.0	871	13.9					
CIM20x38			38	56.0	9.5	532	11.4	638	14.3	801	16.6					
CIM20x44			44	47.5	11.0	523	13.2	627	16.5	784	18.8					
CIM20x51			51	41.7	12.8	534	15.3	638	19.1	796	23.1					
CIM20x64		64	32.3	16.0	619	19.2	620	24.0	775	27.5						
CIM20x76		76	25.1	19.0	477	22.8	572	28.5	715	33.8						
CIM20x89		89	22.0	22.3	491	26.7	587	33.4	735	39.7						
CIM20x102		102	19.8	25.5	505	30.6	606	38.3	758	47.3						
CIM20x115		115	18.1	28.8	521	34.5	624	43.1	780	52.5						
CIM20x127	127	16.6	31.8	528	38.1	632	47.6	790	66.9							
CIM20x139	139	15.1	35.0	529	42.0	634	52.5	793	62.1							
CIM20x152	152	13.2	38.0	500	45.6	600	57.0	750	67.6							
CIM20x305	305	6.1	76.3	465	91.5	558	114.4	698	143.4							

Order NO.	Dh	Dd	Lo	R (N/mm)	S1	25%	F1	S2	30%	F2	S3	37.5%	F3	F4	压缩行程 travel stroke	
CIM25x25	25	12.5	25	147.0	6.3	826	7.5	1103	9.4	1382	10.2					
CIM25x32			32	118.0	8.0	844	9.6	1113	14.13	1203	13.4	1537	15.7			
CIM25x38			38	93.0	9.5	864	11.4	1068	14.3	1330	16.7					
CIM25x44			44	80.8	11.0	889	13.2	1067	16.5	1333	18.2					
CIM25x51			51	68.6	12.8	878	15.3	1059	18.1	1310	21.7					
CIM25x64			64	53.0	16.0	848	19.2	1018	24.0	1272	26.0					
CIM25x76			76	43.2	19.0	821	22.8	985	28.5	1231	32.3					
CIM25x89			89	38.2	22.3	852	26.7	1020	33.4	1276	36.0					
CIM25x102			102	35.5	25.5	842	30.6	1026	34.5	1280	43.0					
CIM25x115			115	28.0	28.8	806	34.5	996	43.1	1207	48.6					
CIM25x127			127	25.9	31.8	824	38.1	987	47.6	1233	53.7					
CIM25x139			139	23.2	35.0	812	42.0	974	52.5	1218	59.4					
CIM25x152			152	20.5	38.0	790	45.6	940	57.0	1189	63.8					
CIM25x178			178	17.8	44.5	792	53.4	951	66.8	1189	76.6					
CIM25x203			203	15.8	50.8	803	60.9	962	76.1	1202	88.4					
CIM25x230			305	10.2	76.3	778	91.5	833	114.4	1167	135.1					
CIM32x38			38	188.0	9.5	1768	11.4	2139	14.3	2646	16.3					
CIM32x44			44	158.0	11.0	1738	13.2	2086	16.5	2607	18.9					
CIM32x51			51	134.0	12.8	1715	15.3	2050	19.1	2559	23.1					
CIM32x64			64	99.0	16.0	1584	19.2	1901	24.0	2376	28.5					
CIM32x76			76	80.5	19.0	1530	22.8	1835	28.5	2294	34.2					
CIM32x89			89	69.1	22.3	1541	26.7	1845	33.4	2308	40.4					
CIM32x102			102	58.8	25.5	1499	30.6	1799	36.3	2252	46.0					
CIM32x115			115	51.5	28.8	1483	34.5	1777	40.1	2219	51.3					
CIM32x127			127	44.8	31.8	1425	38.1	1707	47.6	2132	59.2					
CIM32x139			139	42.3	35.0	1481	42.0	1777	52.5	2221	65.3					
CIM32x152			152	37.8	38.0	1436	45.6	1724	57.0	2155	73.0					
CIM32x178			178	32.5	44.5	1446	50.4	1736	60.9	2171	84.5					
CIM32x203			203	28.9	50.8	1468	60.9	1750	76.1	2199	96.9					
CIM32x254			254	21.4	63.5	1359	76.2	1631	96.3	2039	120.9					
CIM32x305	305	16.3	76.3	1386	91.5	1674	114.4	2094	146.9							
CIM40x51	51	181.6	12.8	2324	15.3	2778	19.1	3469	21.4							
CIM40x64	64	140.0	16.0	2240	19.2	2688	24.0	3360	26.8							
CIM40x76	76	108.0	19.0	2052	22.8	2482	28.5	3078	32.7							
CIM40x89	89	90.7	22.3	2023	26.7	2422	33.4	3029	39.0							
CIM40x102	102	81.0	25.5	2066	30.6	2470	36.3	3019	44.1							
CIM40x115	115	71.8	28.8	2068	34.5	2477	43.1	3095	50.6							
CIM40x127	127	62.7	31.8	1994	38.1	2389	47.6	2985	55.9							
CIM40x139	139	57.5	35.0	2113	42.0	2415	52.5	3019	61.9							
CIM40x152	152	51.6	38.0	1961	45.6	2353	57.0	2941	67.5							
CIM40x178	178	44.1	44.5	1962	53.4	2356	66.8	2846	77.2							
CIM40x203	203	36.7	50.8	1864	60.9	2235	76.1	2793	91.8							
CIM40x254	254	26.1	63.5	1911	76.2	2294	96.3	2663	112.7							
CIM40x305	305	24.0	76.3	1877	91.5	2251	114.4	2581	138.1							
CIM50x64	64	209.0	16.0	3344	19.2	4013	24.0	5016	28.2							
CIM50x76	76	168.0	19.0	3182	22.8	3830	28.5	4788	34.9							
CIM50x89	89	140.0	22.3	3122	26.7	3738	33.4	4673	39.2							
CIM50x102	102	119.0	25.5	3035	30.6	3641	36.3	4558	47.3							
CIM50x115	115	106.0	28.8	3053	34.5	3657	43.1	4569	52.6							
CIM50x127	127	97.0	31.8	3085	38.1	3696	47.6	4617	58.8							
CIM50x139	139	87.0	35.0	3045	42.0	3659	52.5	4586	65.1							
CIM50x152	152	80.0	38.0	3040	45.6	3648	57.0	4560	70.8							
CIM50x178	178	69.5	44.5	3093	53.4	3711	66.8	4643	84.2							
CIM50x203	203	59.8	50.8	3038	60.9	3632	76.1	4552	95.6							
CIM50x229	229	50.9	57.3	2917	68.7	3497	88.7	4372	106.5							
CIM50x254	254	43.9	63.5	2788	76.2	3345	96.3	4184	121.8							
CIM50x305	305	38.6	76.3	2945	91.5	3532	114.4	4416	146.8							

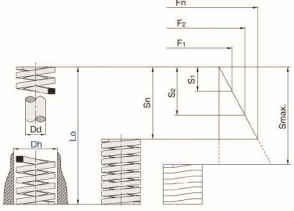
矩形彈簧 - 超重載荷用 - CIB ISO10243標準

DIE SPRINGS - EXTRA HEAVY DUTY SPRINGS - CIB ISO 10243 STANDARD

材質	顏色	Code
錫合金彈簧鋼	黃	CIB
Special alloy	Yellow	

L	公差
25 - 64	±3%
76 - 115	±2.5%
127 - 305	±2%

- Di: 符合H1標準
- Dh: 符合H2標準
- Di: 公差標準與 DIN 2095相近



- S1: 長工作壽命壓縮量
- S2: 平均工作壽命壓縮量
- Smax: 最大工作行程
- Smax: 壓實行程

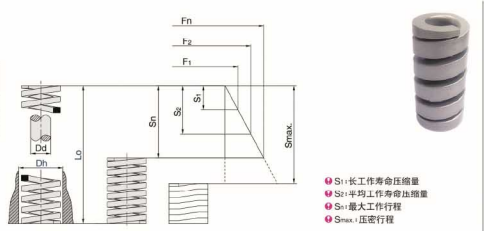


Order NO.	Dh	Di	Lo	R (N/mm)	17%	20%	25%	壓密行程
					S1	S2	F1	travel stroke
CIB10x25	10	5	25	36.8	4.3	158	5.0	7.7
CIB10x32	10	5	32	27.9	5.4	151	6.4	10.6
CIB10x38	10	5	38	23.7	6.5	154	7.6	12.6
CIB10x44	10	5	44	19.2	7.5	144	8.6	13.8
CIB10x51	10	5	51	16.5	8.7	144	10.2	16.2
CIB10x64	10	5	64	13.2	10.9	144	12.8	20.4
CIB10x76	10	5	76	10.9	12.9	141	15.2	25.2
CIB10x305	10	5	305	2.6	51.9	135	61.0	159
CIB12.5x25	12.5	6.3	25	58.5	4.3	252	5.0	29.3
CIB12.5x32	12.5	6.3	32	43.9	5.4	237	6.4	28.1
CIB12.5x38	12.5	6.3	38	36.0	6.5	234	7.6	27.4
CIB12.5x44	12.5	6.3	44	30.3	7.5	227	8.6	26.7
CIB12.5x51	12.5	6.3	51	26.2	8.7	228	10.2	26.7
CIB12.5x64	12.5	6.3	64	21.2	10.9	231	12.8	21.1
CIB12.5x76	12.5	6.3	76	17.1	12.9	229	15.2	26.0
CIB12.5x89	12.5	6.3	89	14.5	15.1	219	17.8	25.8
CIB12.5x305	12.5	6.3	305	4.3	61.0	223	61.0	262
CIB16x25	16	8	25	116.0	4.3	507	5.0	59.0
CIB16x32	16	8	32	89.0	5.4	481	6.4	57.0
CIB16x38	16	8	38	72.1	6.5	469	7.6	54.8
CIB16x44	16	8	44	60.9	7.5	457	8.6	53.6
CIB16x51	16	8	51	52.3	8.7	455	10.2	53.3
CIB16x64	16	8	64	41.2	10.9	449	12.8	52.7
CIB16x76	16	8	76	34.1	12.9	440	15.2	51.8
CIB16x89	16	8	89	29.5	15.1	445	17.8	52.5
CIB16x102	16	8	102	25.6	17.3	443	20.4	52.2
CIB16x305	16	8	305	6.4	51.9	438	61.0	51.2
CIB20x25	20	10	25	293.0	4.3	1260	5.0	146.5
CIB20x32	20	10	32	224.0	5.4	1210	6.4	143.4
CIB20x38	20	10	38	177.0	6.5	1151	7.6	134.5
CIB20x44	20	10	44	149.0	7.5	1118	8.6	131.1
CIB20x51	20	10	51	126.0	8.7	1114	10.2	130.6
CIB20x64	20	10	64	99.0	10.9	1079	12.8	126.7
CIB20x76	20	10	76	81.7	12.9	1054	15.2	124.2
CIB20x89	20	10	89	69.5	15.1	1049	17.8	123.7
CIB20x102	20	10	102	60.6	17.3	1048	20.4	123.6
CIB20x115	20	10	115	53.0	19.6	1039	23.0	121.9
CIB20x127	20	10	127	47.5	21.6	1026	25.4	120.7
CIB20x139	20	10	139	43.0	23.8	1023	28.0	120.4
CIB20x152	20	10	152	39.0	25.8	1006	30.4	118.0
CIB20x305	20	10	305	21.2	51.9	1100	61.0	129.3

Order NO.	Dh	Di	Lo	R (N/mm)	17%	20%	25%	壓密行程
					S1	F1	S2	travel stroke
CIB25x25	25	12.5	25	459.0	4.3	1974	5.0	229.5
CIB25x32	25	12.5	32	374.4	5.4	2022	6.4	239.6
CIB25x38	25	12.5	38	349.0	6.5	2249	7.6	230.7
CIB25x44	25	12.5	44	244.0	7.5	1830	8.8	214.7
CIB25x51	25	12.5	51	207.5	8.7	1805	10.2	211.7
CIB25x64	25	12.5	64	161.0	10.9	1755	12.8	206.1
CIB25x76	25	12.5	76	130.6	12.9	1667	15.2	198.5
CIB25x89	25	12.5	89	110.5	15.1	1669	17.8	196.7
CIB25x102	25	12.5	102	96.3	17.3	1666	20.4	195.5
CIB25x115	25	12.5	115	85.7	19.6	1660	23.0	197.1
CIB25x127	25	12.5	127	76.3	21.6	1648	25.4	193.8
CIB25x139	25	12.5	139	68.9	23.8	1640	28.0	192.9
CIB25x152	25	12.5	152	63.5	25.8	1638	30.4	193.0
CIB25x178	25	12.5	178	53.3	30.3	1633	35.5	191.9
CIB25x203	25	12.5	203	47.0	34.5	1622	40.6	190.6
CIB25x305	25	12.5	305	30.0	51.9	1604	61.0	188.5
CIB32x38	32	16	38	528.2	6.5	3433	7.6	401.4
CIB32x44	32	16	44	424.4	7.5	3163	8.8	376.5
CIB32x51	32	16	51	353.0	8.7	3071	10.2	360.1
CIB32x58	32	16	58	289.2	10.9	2934	12.8	344.6
CIB32x64	32	16	64	218.5	12.9	2819	15.2	332.1
CIB32x89	32	16	89	180.3	15.1	2723	17.8	320.9
CIB32x102	32	16	102	155.0	17.3	2682	20.4	316.2
CIB32x115	32	16	115	140.0	19.6	2744	23.0	322.0
CIB32x127	32	16	127	124.0	21.6	2676	25.4	315.0
CIB32x139	32	16	139	112.3	23.8	2673	28.0	314.4
CIB32x152	32	16	152	102.0	25.8	2632	30.4	310.1
CIB32x178	32	16	178	88.2	30.3	2672	35.6	314.0
CIB32x203	32	16	203	76.0	34.5	2622	40.6	308.6
CIB32x254	32	16	254	60.8	43.2	2627	50.8	308.9
CIB32x305	32	16	305	49.0	51.9	2543	61.0	298.9
CIB40x51	40	20	51	628.0	8.7	5464	10.2	640.6
CIB40x64	40	20	64	487.0	10.9	5306	12.8	623.4
CIB40x89	40	20	89	379.0	12.9	4889	15.2	598.1
CIB40x99	40	20	99	321.0	15.1	4487	17.8	571.4
CIB40x102	40	20	102	281.0	17.3	4861	20.4	573.2
CIB40x115	40	20	115	245.0	19.6	4802	23.0	563.5
CIB40x127	40	20	127	221.0	21.6	4774	25.4	561.3
CIB40x139	40	20	139	190.0	23.8	4522	28.0	532.0
CIB40x152	40	20	152	168.0	25.8	4334	30.4	510.7
CIB40x178	40	20	178	146.0	30.3	4424	35.6	519.8
CIB40x203	40	20	203	132.0	34.5	4454	40.6	520.9
CIB40x254	40	20	254	107.0	43.2	4622	50.8	543.6
CIB40x305	40	20	305	87.8	51.9	4557	61.0	536.6
CIB50x64	50	25	64	709.0	10.9	7728	12.8	907.5
CIB50x76	50	25	76	572.0	12.9	7379	15.2	869.6
CIB50x89	50	25	89	475.0	15.1	7173	17.8	845.5
CIB50x102	50	25	102	405.0	17.3	7007	20.4	828.2
CIB50x115	50	25	115	352.0	19.6	6899	23.0	809.6
CIB50x127	50	25	127	319.0	21.6	6860	25.4	826.1
CIB50x139	50	25	139	274.0	23.8	6521	28.0	767.2
CIB50x152	50	25	152	239.0	25.8	6168	30.4	728.6
CIB50x178	50	25	178	215.0	30.3	6515	35.6	765.4
CIB50x203	50	25	203	187.0	34.5	6455	40.6	760.2
CIB50x254	50	25	254	153.0	43.2	6610	50.8	777.2
CIB50x305	50	25	305	127.0	51.9	6591	61.0	774.7
CIB63x76	63	31.5	76	952.0	12.9	12980	15.2	1447.0
CIB63x89	63	31.5	89	819.0	15.1	12360	17.8	1386.0
CIB63x102	63	31.5	102	700.0	17.3	12110	20.4	1428.0
CIB63x115	63	31.5	115	620.0	19.6	12125	23.0	1428.0
CIB63x127	63	31.5	127	565.0	21.6	12204	25.4	1435.1
CIB63x152	63	31.5	152	458.0	25.8	11816	30.4	1392.3
CIB63x178	63	31.5	178	384.0	30.3	11635	35.6	1367.0
CIB63x203	63	31.5	203	337.0	34.5	11627	40.6	1368.2
CIB63x254	63	31.5	254	283.0	43.2	11362	50.8	1336.0
CIB63x305	63	31.5	305	218.0	51.9	11314	61.0	1326.8

超重載荷用 EXTRA HEAVY DUTY SPRINGS

材质 Material	颜色 Colour	Code
特殊合金弹簧钢 Special alloy	银 Silver	CIG
L		
25- 64	±3%	
76- 115	±2.5%	
127- 305	±2%	
F 公差		
Dh: 符合H15标准		
Dd: 符合H15标准		
公差标准与 DIN 2095 相同		



- S1: 长工作寿命压缩量
- S2: 平均工作寿命压缩量
- S3: 最大工作行程
- Smax: 压缩行程



Order NO.	Dh	Dd	Lo	R	10%		12%		15%		压缩行程	
			(N/mm)	G1	F1	G2	F2	S1	F1	S2	F2	
CIG25x64		64	644.0	6.4	4122	7.7	4959	9.6	6182	13.0		
CIG25x76		76	556.0	7.6	4226	9.1	5060	11.4	6338	16.0		
CIG25x89		89	462.0	8.9	4112	10.7	4943	13.4	6168	20.0		
CIG25x102		102	390.0	10.2	3978	12.2	4758	15.3	5967	23.0		
CIG25x115		115	360.0	11.5	4140	13.8	4968	17.3	6210	26.0		
CIG25x127		127	326.0	12.7	4140	15.2	4955	19.1	6210	29.0		
CIG25x152		152	255.0	15.2	3876	18.2	4641	22.8	5814	34.0		
CIG25x178		178	230.0	17.8	4094	21.4	4922	26.7	6141	39.0		
CIG25x203		203	202.0	20.3	4101	24.4	4929	30.5	6151	45.0		
CIG25x305		305	136.0	30.5	4148	36.6	4978	45.8	6222	63.0		
CIG32x64		64	1077.0	6.4	6982	7.7	8270	9.5	10337	13.0		
CIG32x76		76	874.0	7.6	6642	9.1	7971	11.4	9964	16.0		
CIG32x89		89	721.0	8.9	6419	11.0	7702	13.4	9628	20.0		
CIG32x102		102	620.0	10.0	6324	12.0	7589	15.3	9486	23.0		
CIG32x115		115	560.0	12.0	6440	14.0	7728	17.3	9900	26.0		
CIG32x127		127	496.0	13.0	6399	15.0	7559	19.1	9449	29.0		
CIG32x152		152	406.0	15.0	6202	18.0	7442	22.8	9302	34.0		
CIG32x178		178	353.0	18.0	6280	21.0	7536	26.7	9420	39.0		
CIG32x203		203	304.0	20.0	6171	24.0	7405	30.5	9257	45.0		
CIG32x254		254	243.0	25.0	6171	30.0	7413	38.1	9266	62.0		
CIG40x305		305	196.0	30.5	5978	37.0	7174	45.8	8967	75.0		
CIG40x89		89	880.0	8.9	7832	10.7	9416	13.4	11748	20.0		
CIG40x102		102	762.0	10.2	7772	12.2	9296	15.3	11659	23.0		
CIG40x115		115	679.0	11.5	7809	13.8	9370	17.3	11713	26.0		
CIG40x127		127	622.0	12.7	7899	15.2	9454	19.1	11849	29.0		
CIG40x152		152	509.0	12.7	7737	18.2	9264	22.8	11605	36.0		
CIG40x178		178	420.0	17.8	7636	21.4	9181	26.7	11454	43.0		
CIG40x203		203	374.0	20.3	7592	24.4	9126	30.8	11388	49.0		
CIG40x254		254	296.0	25.4	7918	30.5	9028	38.1	11278	62.0		
CIG40x305		305	246.0	30.5	7530	36.6	9004	45.8	11255	75.0		
CIG50x89		89	1410.0	8.9	12549	10.7	15087	13.4	18824	19.0		
CIG50x102		102	1215.0	10.2	12383	12.2	14828	15.3	18592	23.0		
CIG50x115		115	1076.0	11.5	12374	13.8	14848	17.3	18561	25.0		
CIG50x127		127	968.0	12.7	12294	15.2	14714	19.1	18440	28.0		
CIG50x152		152	806.0	15.2	12251	18.2	14669	22.8	18377	34.0		
CIG50x178		178	698.0	17.8	12424	21.4	14837	26.7	18637	40.0		
CIG50x203		203	612.0	20.3	12424	24.4	14833	30.5	18635	45.0		
CIG50x254		254	472.0	25.4	11889	30.5	14366	38.1	17963	58.0		
CIG50x305		305	388.0	30.5	11834	36.6	14201	45.8	17751	70.0		

> 公差

刚度性: ± 10%;
自由长度: ± 1%, 最小为±0.75mm (此公差比ISO标准规定的公差更严格);
外径: 弹簧的外径始终小于目录中指示的导孔直径;
内径: 弹簧的内径始终大于目录中指示的芯轴的直径。

> Tolerances

Strength: ± 10%;
Free length: ± 1%, with a minimum of ± mm 0.75 (this tolerance is stricter than the one laid down by the ISO standard);
External diameter: the external diameter of the spring is always smaller than the housing diameter indicated in the catalogue;
Internal diameter: the internal diameter of the spring is always greater than the diameter of the guiding pin indicated in the catalogue.

> 弹簧的选择

目录中的表格有助于弹簧的选择, 该表格在两个不同的工作压缩假设中指示了载荷和压缩行程值。下表总结了为每个系列计算的行程。

> Spring selection

Spring selection is facilitated by the tables in our catalogue which indicate the load and stroke values in two different working deflection hypothesis. The following table summarizes the deflection calculated for each series.

标准 Standard	系列 Series	加载力 Load	XLL 长寿命的总压缩行程 Long life total deflection	循环次数 Cycles	Max 最大可用压缩行程 Maximum working total deflection	循环次数 Cycles
TOPWAY	CIF	轻载荷 Light	40%	+3,000,000	50%	200,000
ISO 10243	CHL	中载荷 Medium	30%	+3,000,000	40%	200,000
ISO 10243	CIM	中载荷 Medium	30%	+3,000,000	37.5%	200,000
ISO 10243	CHB	重载荷 Heavy	25%	+3,000,000	30%	200,000
ISO 10243	CIB	极重载荷 Super Heavy	20%	+5,000,000	25%	200,000
TOPWAY	CIG	超重载荷 Super Heavy	12%	+5,000,000	15%	200,000

循环次数:
在推荐条件下, 取每个系列里中间自由长度的弹簧进行试验计算。
Cycle:
Infinitive statistic data based on tests carried out on items with central free lengths under the recommendations specified here below

总压缩行程:
预紧行程 + 工作行程
Total deflection:
preload + working stroke

- 在选择和使用弹簧时, 我们建议:
- 1 选择工作条件允许的最低重量和自由长度最长的弹簧。
 - 2 避免使用总压缩行程 (预紧行程+工作行程) 大于目录中指示的最大压缩行程。在模具检修时, 也避免这一点。
 - 3 预加载每个弹簧至少5%的自由长度, 最小2 mm。
 - 4 为每个弹簧提供一个稳固支撑。
 - 5 当Lo / D > 3时, 需对弹簧进行内、外导向。

- When selecting and using the springs we recommend:
- 1 Select the lightest and longest springs working requirements allow.
 - 2 Never select total deflections (preload + stroke) that are greater than the maximum deflection indicated in the catalogue. Also check this when sharpening the tools in the die.
 - 3 Preload at least 5% of the free length of each spring, with a minimum of 2 mm.
 - 4 Provide for an even base for each spring.
 - 5 Guide the springs with an internal pin or deep housing to avoid buckling, in particular when Lo/D > 3.