



中国核工业
CHINA NATIONAL NUCLEAR CORP



核工弹簧
HEGONG SPRING

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微 信 公 众 号

HEGONG
SPRING



上海核工碟形弹簧制造有限公司
SHANGHAI HEGONG DISC SPRING MANUFACTURE CO.,LTD.



HEGONG SPRING



我们始终尽心尽力 我们追求尽善尽美

We always make all-out effort.

We try to make perfection.



01 | ABOUT US

关于我们

HEGONG SPRING
上海核工碟形弹簧制造有限公司

公司简介

上海核工碟形弹簧制造有限公司（简称“核工弹簧”）隶属于中国核工业系统，是专业生产碟形弹簧系列产品及其组件的军工企业，同时是中国通用零部件工业协会理事单位，并被上海市政府认定为高新技术企业。

公司技术力量雄厚，是碟形弹簧产品国家标准和波形弹簧技术条件行业标准的牵头起草单位。公司各类专业技术人员占员工总数的40%以上，其中高级工程技术人员占20%。公司凭借二十多年弹簧制造经验和研发中心较强的技术开发能力先后获得多项国家发明专利。

公司配备精良的CAD、CAM和国内领先的弹簧力学性能自动测试系统，制造过程完全按照ISO9001:2015质量保证体系进行控制，确保产品质量满足客户要求。

公司产品在国家重点工程项目中得到广泛的运用，神州五号返回舱系统、三峡水电枢纽工程、核电工程、上海东方艺术中心、上海铁路南站、上海长江隧桥工程等都有我们的产品。

公司以高品质的“核工弹簧”走向市场。公司秉承“为客户提供尽善尽美的产品与服务是我们不懈的追求，让客户分享我们的进步是我们的永恒宗旨，实现永续经营是我们的最终目标！”的经营理念，竭诚与国内外同行和广大客户共创美好未来。

Company Introduction

Shanghai Hegong Disc Spring Manufacturing Co., Ltd. (hereinafter referred to as "Hegong Spring") is subordinate to China National Nuclear Industrial System, it is an military enterprise specializing in the production of disc spring series products and their components, meanwhile we are also the syndic unit of China General Components Industry Association and has been identified as high-tech enterprise by Shanghai municipal government.

Our company has strong technical strength; we are the leading and drafting unit of the national standard for disc spring products as well as the contributor of the national standard for Wave spring - Technical specification. We have all kinds of professional and technical staff who account for more than 40% of the total number of employees, in which the senior engineers and technicians account for 20%. Our company has received many national invention patents by relying on more than twenty years' spring manufacturing experience and strong technology development capability of R & D center.

Our company has equipped with sophisticated CAD, CAM and domestic advanced spring mechanical properties automatic testing system, the manufacturing process is completely controlled in accordance with the ISO9001:2015 quality assurance system, in order to ensure product quality to meet customer requirements.

Our company's products are widely used in national key engineering projects, such as, the re-entry capsule system of Shenzhou Five Spacecraft, the Three Gorges hydropower projects, nuclear power engineering, Shanghai Oriental Art Center, South Station of Shanghai Railway, Shanghai Yangtze River Tunnel and Bridge engineering etc. has used our products.

Our company moves towards the market with high-quality "Hegong spring". We adhere to the management idea of "To provide customer with perfect products and services is our unremitting pursuit, to share our progress with customers is our eternal purpose, to achieve sustainable development is our ultimate goal!" We will wholeheartedly with the domestic and foreign same industry companies and customers to create a better future.

设备尖端 精益管理

Sophisticated equipment Lean management

上海核工碟形弹簧制造有限公司研发中心：现有研发人员三十人，其中十余人是从业多年的资深专家。中心致力于新产品的研制、开发，推动新技术迅速转化为生产力，同时加强与高校的学术交流，形成产、学、研相结合的研发模式，至今已完成并获得20多项发明与实用新型专利。中心还主持并参与了碟形弹簧国家标准，波形弹簧技术条件行业标准及相关弹簧行业标准的制修订，在国内外期刊和行业交流会议上发表了多篇具有较高学术价值的论文。



Now we have thirty R & D staff, of which more than ten people are the senior experts who have many years of working experiences. The center is committed to research and develop new product, and product, and promote new products and new technology to be quickly transformed into productive forces, meanwhile the R & D center has strengthened the communication with colleges and universities in order to form the R & D mode by combination of industry-university-research, until now, it has completed more than twenty patents and utility model projects. The center has also presided over and participated in the drafting and revision for the national standards of disc spring, wave spring technical conditions industry standard and industry standards of relevant springs, and published many treatises with higher academic value in domestic and foreign journals and industry exchange meetingspring.



选材精良 严格品控

Superior materials Strict quality control

检测中心检测人员16人，检测设备共有10套。主要有1吨（TCD数控弹簧试验机）、5吨（TLW微机控制弹簧拉压试验机）、10吨（TYW微机控制弹簧压力试验机）、100吨（TYE液压式弹簧压力试验机）、400吨（WTB微机控制电流伺服弹簧压力试验机）其中，静载荷最小检测能力可达到100N最大检测能力可达到40000kN且最大检测行程达1米，可满足各类碟形弹簧组的完整性动力检测。



There are 16 staff in our testing center with total of 10 sets of testing equipments. They are 1 tons (TCD CNC spring testing machine), 5 tons (TLW microcomputer controlled spring tension and compression testing machine), 10 tons (TYW microcomputer controlled spring pressure testing machine), 100 tons (TYE hydraulic spring pressure testing machine), 400 tons (WTB microcomputer controlled current servo spring pressure testing machine), in which, the minimum detection capability of static load can achieve 100 N, the maximum detection capability can reach 40000kN and the maximum detection range is up to one meters, which can meet the integrity dynamic detection for all kinds of disc spring groups. Meanwhile, the physicochemical laboratory of testing center can quickly test the chemical composition and mechanical property of materials, in order to strictly control the raw materials from the source.

权威认证 品质保证

Authoritative certification Quality assurance

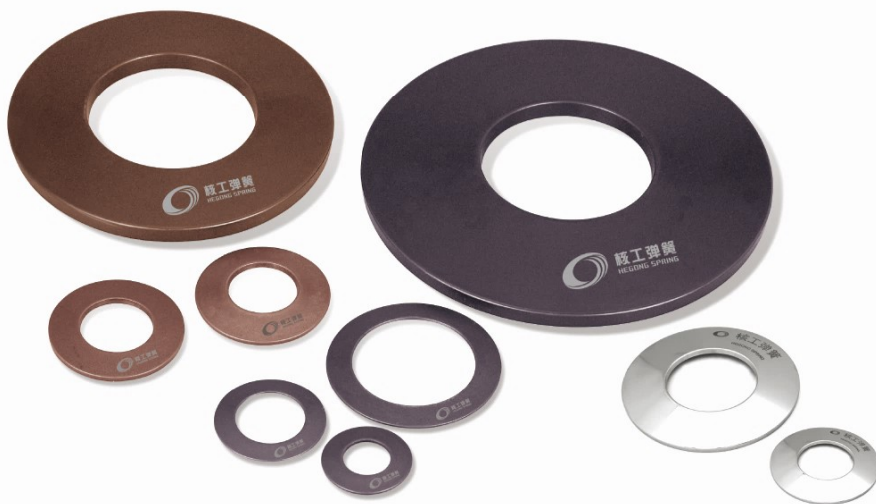


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02 | PRODUCTS

产品中心



• 碟形弹簧(DIN2093 GB/T1972-2005)

适用场所：碟形弹簧具有体积小、储能大、组合使用方便等优良特性，广泛应用于国防、冶金、工程、电力、机床等机械行业。

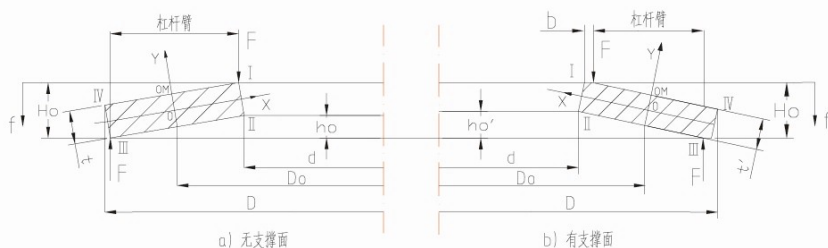
设计：根据使用的现状条件及受力状况，采用公司自主开发的计算机辅助设计系统，确定碟形弹簧的几何尺寸及相关加工要求。

选材：根据客户使用条件，精选适合的材料，最大限度的满足客户需求。常用材料有60Si2Mn, 50CrV及各类镍基合金和不锈钢材料。

表面处理：碟形弹簧的表面处理方法有发蓝、磷化、电镀、电泳和机械镀锌等。

本公司可根据客户使用状况，生产制造各种非标产品。

碟形弹簧规格见25-28页（碟形弹簧标准参数表）。



• Disc spring(DIN2093 GB/T1972-2005)

Applicable places: disc spring has the advantages of small volume, large energy storage, easy to assemble and other excellent characteristics, which are widely used in national defense, metallurgy, engineering, electricity, machine tool and other machinery industries.

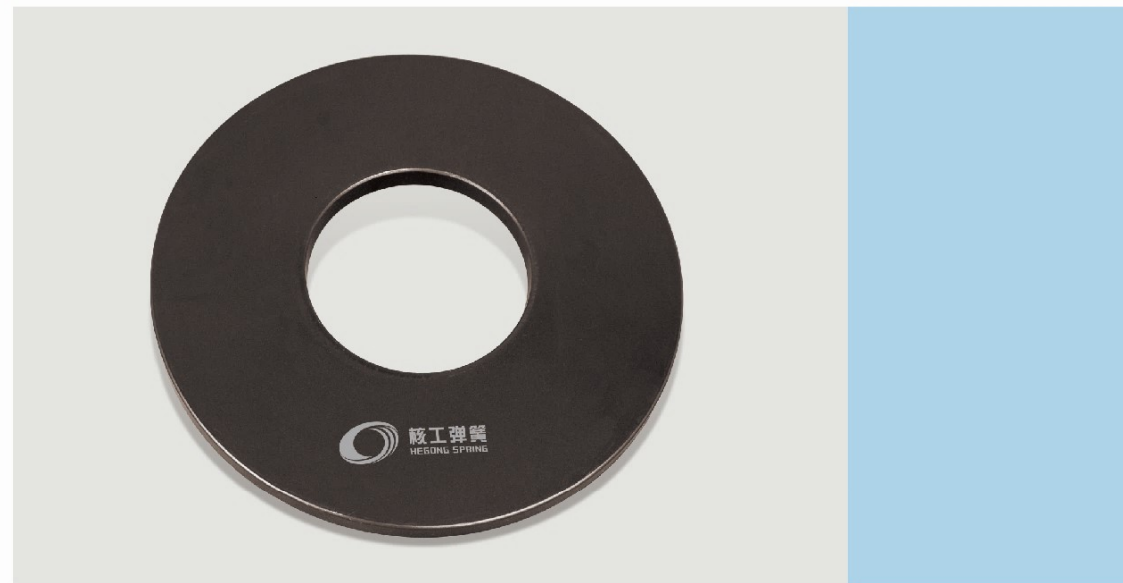
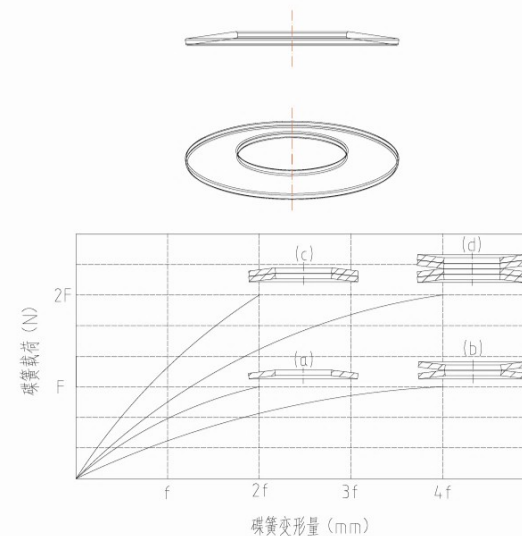
Design: according to the present situation of use and force condition, using the computer aided design system independently developed by the company to confirm the geometric dimension of disc spring and related processing requirements.

Materials: selecting suitable materials according to customer's use condition, in order to meet customer demands in maximum. The commonly used materials are 60Si2Mn, 50CrV and Nickel alloy all kinds of stainless steel materials.

Surface treatment: the surface treatment method of disc spring is bluing, phosphating, electroplating, electrophoresis and mechanical zinc plating, etc.

Our company can manufacture all kinds of non-standard products according to customer's service condition.

The specifications of disc spring please see pages from 25 to 28.



• 波形弹簧

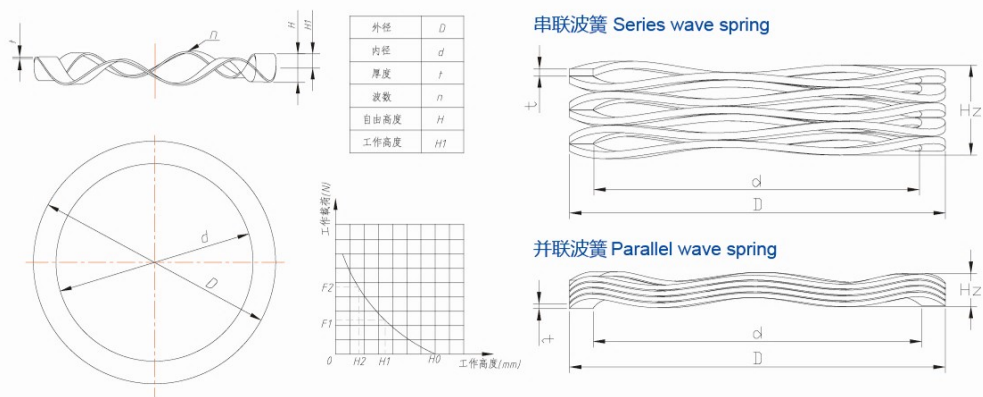
波形弹簧简称波簧，是金属薄圆环上具有若干峰谷的弹性元件。本公司生产的波形弹簧分单层（开口、闭口）波形弹簧、多层波形弹簧。单层波形弹簧可执行标准为JB/T 13296-2017，JB/T 7590 - 2005，HG/T 2479 - 2003，也可代为设计、制造各类非标准波形弹簧。鉴于国内没有统一的多层波形弹簧标准，公司可根据客户要求生产或代为客户设计、制造各类多层波形弹簧。

适用场所：通常应用于载荷和变形量均不大，要求弹簧刚度较小需施加轴向预压力的场合。

设计：根据使用的现状条件及受力状况，用公司自主开发的计算机辅助设计系统，确定波形弹簧的几何尺寸及相关加工要求。

造 材：根据客户使用条件，精选适合的材料，最大限度的满足客户需求。常用材料有GH4145(Inconel x-750)，GH4169(Inconel X-718) O7Cr17Ni7Al(17-7PH)，60Si2Mn,50CrV及各类不锈钢。

表面处理：波形弹簧的表面处理方法有发黑、光亮、磷化等。



Wave Spring

Waveform spring is called wave spring for short; it is the elastic element which has several peak valleys on the thin metal ring. The wave springs we produced including single-layer (open, closed) wave spring and multi-layer wave spring. The executable standard of single-layer waveform spring is JB/T 13296-2017, JB/T 7590-2005, HG/T 2479-2003, we can also design, manufacture various types of non - standard wave spring. Because our country does not have united standard of multi-layer wave spring, but our company can produce, design and manufacture various types of multi-layer wave springs according to customer requirement.

Applicable places: usually applied to the small load and deformation projects, which requires small spring stiffness and needs to exert axial pre-compression.

Design: according to the present situation of use and force condition, using the computer aided design system independently developed by the company to confirm the geometric dimension of wave spring and related processing requirements.

Materials: selecting suitable materials according to customer's use condition, in order to meet customer demands in maximum. The commonly used materials are GH4145 (Inconel x-750) , GH4169 (Inconel X-718) O7Cr17Ni7Al (17-7PH) 60Si2Mn, 50CrV and all kinds of stainless steel materials.

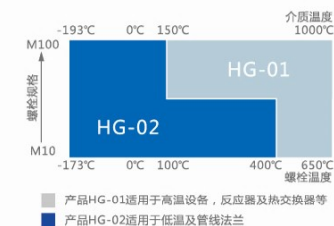
Surface treatment: the surface treatment method of wave spring is black finish, surface gloss finish, phosphating, etc.

单层波形弹簧规格表 Specification table of single-layer wave spring

规格	基本尺寸		自由高度H (mm)	厚度t (mm)	波数n	试验高度h (mm) (100H/25-0.02)	弹力F(N)			
	外径D (mm)	内径d (mm)					Fmin (M级)	Fmax (M级)	Fmin (H级)	Fmin (H级)
D16	15.4	11.7	2.0	0.3	3	1.0	50	110	60	100
D19	18.6	14.7	2.7	0.3	3	1.0	60	120	70	110
D22	21.4	15.3	3.0	0.3	3	1.2	60	160	80	140
D26	25.0	18.7	4.0	0.3	3	1.2	80	180	100	160
D28	27.2	20.8	4.1	0.3	3	1.2	80	200	105	175
D30	29.0	22.6	3.1	0.5	3	1.2	90	230	115	205
D32	31.4	26.6	4.0	0.5	3	1.2	110	250	135	225
D35	34.0	27.8	4.3	0.5	3	1.5	140	280	165	255
D40	38.6	32.8	3.2	0.5	4	1.5	160	300	185	275
D42	40.6	34.1	3.3	0.5	4	1.5	180	320	205	295
D47	45.5	38.4	4.0	0.5	4	1.5	200	340	225	315
D52	50.5	41.0	3.2	0.5	5	2.0	210	350	235	325
D62	60.2	50.2	3.9	0.5	5	2.0	260	400	285	375
D72	69.1	59.1	5.5	0.5	5	2.0	310	470	340	440
D80	78.0	70.0	3.9	0.6	6	2.0	360	520	390	490
D85	83.1	73.1	4.0	0.6	6	2.0	390	550	420	520
D90	87.6	78.1	4.5	0.6	6	2.0	420	580	450	550
D100	97.0	87.5	5.6	0.6	6	2.0	440	620	475	585
D110	107.3	97.6	4.6	0.6	7	2.0	470	650	505	615
D120	116.4	107.0	5.8	0.6	7	2.0	480	660	515	625
D125	120.8	111.6	5.9	0.6	7	2.0	480	660	515	625
D130	128.5	109.5	4.8	0.8	6	3.0	490	670	525	635
D140	138.5	119.8	4.6	0.9	6	3.0	490	670	525	635
D150	148.8	125.4	4.6	0.9	6	3.0	500	700	540	660
D160	159.1	137.1	4.5	1.0	6	3.0	520	720	560	680
D170	169.0	142.0	4.3	1.0	6	3.0	530	750	570	710
D180	179.1	145.1	4.8	1.0	6	3.0	590	850	640	800
D190	187.5	154.5	5.0	1.2	6	4.0	770	1030	820	980



上海核工高温碟簧规格表		
螺栓规格	螺栓类型	使用设备
M10~M24	商品级六角头螺栓	反应器
	商品/专用级双头螺栓	热交换器
M27~M100	专用级全螺纹螺栓	管线法兰
		泵及阀门法兰



• 高温系列

产品系列：碟形弹簧、碟形垫圈、单/多层波形弹簧、螺旋弹簧等。

适用场所：军工、石化、冶金、造纸、制药、食品加工。

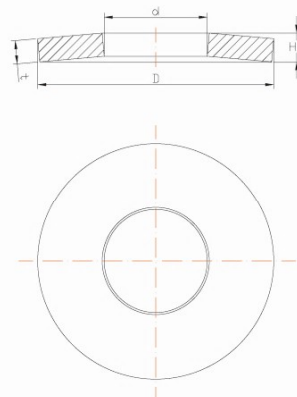
设计：温差达100°C以上的法兰及振动设备的法兰连接，采用上海核工高温碟簧是实现可靠密封的技术保障。

上海核工高温碟簧经上海交通大学进行材料力学性能检验，确保产品质量。

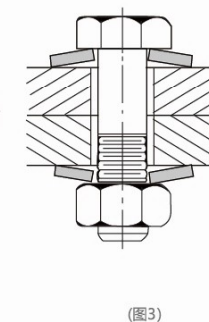
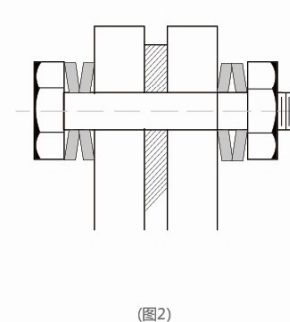
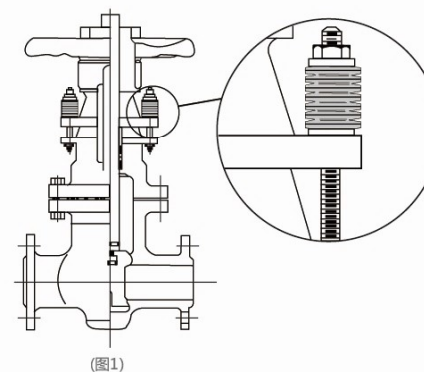
造 材：根据使用条件，精选耐高温、耐腐蚀及非（微）磁性材料，最大限度的满足客户需求。

常用材料HG-01、HG-02及不锈钢。

表面处理：高温碟簧的表面处理有表面光亮，电泳等。



上海核工高温碟簧的使用



• High temperature series

Product series: disc spring, disc washer, single-layer / multi-layer wave spring, spiral spring, etc.

Applicable places: military industry, petrochemical, metallurgy, papermaking, pharmaceutical and food processing.

Design: the flange with temperature difference of more than 100 °C and vibratory equipment flanged joint, using Shanghai Hegong high-temperature disc spring is the technical guarantee to achieve reliable sealing. Shanghai Hegong high-temperature disc spring has been performed material mechanical performance testing by Shanghai Jiaotong University, so as to ensure product quality.

Materials: selecting high temperature resistance, corrosion resistance and non- (micro) magnetic materials according to customer service condition, in order to meet customer demands in maximum. The commonly used materials are HG-01, HG-02 and stainless steel.

Surface treatment: the surface treatment of high temperature disc spring is surface gloss finish, electrophoresis, etc.

复合组合成弹簧组使用（图1）
对合组合使用（图2）
单片使用（图3）
叠合使用

高温碟簧应用
★热交换器法兰
★反应釜法兰
★高温阀门及管线法兰
★高温泵的法兰
各种其他工程应用

● 碟形彈簧墊圈(DIN6796)

碟形彈簧墊圈遵循DIN6796制造生产，用于中等或高强度螺栓、螺钉的连接。螺栓螺钉连接后，对预防拉力的松弛、对易损件的磨损及蠕变，热膨胀收缩及密封件的压紧起到了补偿作用。

适用场所：碟形彈簧墊圈广泛应用于国防、冶金、工程、电力、机床等机械行业。

设计：根据使用的现状条件及受力状况，用公司自主开发的计算机辅助设计系统，确定碟形彈簧墊圈的几何尺寸及相关加工要求。

材料：根据客户使用条件，精选适合的材料，最大限度的满足客户需求。用材料有60Si2Mn，50CrV及各类不锈钢。

表面处理：碟形彈簧墊圈的表面处理方法有发蓝、磷化、电镀、电泳和机械镀锌等。

超高扭力碟形墊圈规格

The specifications of extra high torsion disc spring washer

螺栓规格	D(mm)	d(mm)	t(mm)	Ho(mm)	建议使用压平载荷 (N)	理论压平载荷 (N)
M10	18.24	10.41	3.02	3.2	30959	21633
M12	21.69	12.4	3.66	3.86	31121	31544
M14	25.27	14.4	4.27	4.5	32153	43319
M16	29.16	16.36	5.11	5.38	50656	60320
M18	32.64	18.39	5.89	6.17	72011	——
M20	36.96	20.6	6.15	6.45	62083	93149
M22	40.39	22.89	7.42	7.8	90914	123310
M24	43.41	24.82	7.52	7.9	115834	134253
M27	48.69	27.81	8.38	8.81	136696	176690
M30	53.92	30.81	9.5	9.98	143136	214591
M32	58.67	32.54	10.72	11.25	192324	266893
M33	59.18	33.53	10.62	11.13	213379	267705
M36	65.53	36.8	11.46	12.04	207630	314119
M38	68.07	39.62	12.95	13.54	254144	398221
M39	68.07	39.62	12.95	13.54	254144	398221
M42	74.93	42.85	14.58	15.21	299047	475979
M48	86.08	48.23	14.76	15.6	360627	509231
M52	91.44	52.81	15.8	16.66	355185	585298
M56	102.61	57.94	17.88	18.84	446165	——
M64	113.87	64.29	19.96	21.03	536156	938927
M70	124.97	70.64	22.07	23.24	592529	1148282
M90	155.57	90.75	21.36	22.89	652223	1069147
M100	181.23	102.97	18.14	20.55	——	1114804

高扭力碟形墊圈规格

The specifications of high torsion disc spring washer

螺栓规格	外径D	内径d	厚度t	高度Ho	建议使用压平载荷 (N)	理论压平载荷 (N)
M8	14.7	8.4	1.27	1.75	4437	——
M10	18.2	10.4	2.1	2.29	9468	12456
M12	21.7	12.4	2.41	2.65	11070	16459
M14	25.3	14.4	2.41	2.72	12582	16236
M16	29.1	16.6	3.17	3.48	23328	28915
M18	32.6	18.6	3.42	3.78	17676	33585
M20	36.4	20.8	3.95	4.34	28962	43594
M22	40.4	22.9	3.95	4.44	26928	43372
M24	43.4	24.8	3.95	4.49	35901	42927
M27	48.7	27.8	3.95	4.62	34461	42260
M30	53.9	30.8	4.88	5.55	65880	66726
M32	57.4	32.8	4.88	5.65	69093	——
M33	59.1	33.5	4.9	5.69	60003	88964
M36	64.4	36.8	4.9	5.87	60759	64947
M38	68	38.8	6.5	7.32	76347	115658
M39	69.7	39.8	6.5	7.35	84501	117682
M42	74.9	42.8	6.5	7.27	89244	122331
M48	86.1	49.2	8	9.05	135270	181272
M52	93.1	53.2	8	9.2	101493	180160
M64	113.5	65.1	10.01	11.29	182637	275790
M72	127	72.9	12.7	14.22	——	451494



● Disc spring washer (DIN6796)

Disc spring washer follows DIN6796 production, which is used for medium or high strength bolt and screw the screw connection. After bolt and screw connection, it has the compensation function for preventing tension loose, wearing and creeping of wear parts, thermal expansion and shrinkage as well as compression of sealing elements.

Applicable places: disc spring washer is widely used in national defense, metallurgy, engineering, electricity, machine tool and other machinery industries.

Design: according to the present situation of use and force condition, using the computer aided design system independently developed by the company to confirm the geometric dimension of disc spring washer and related processing requirements.

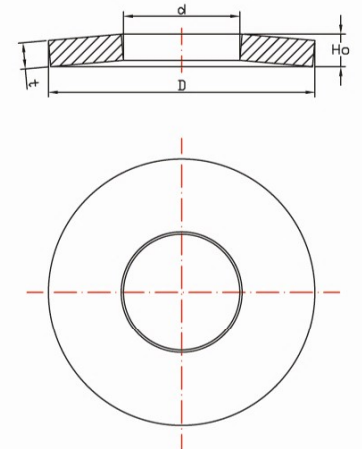
Materials: selecting suitable materials according to customer's use condition, in order to meet customer demands in maximum. The commonly used materials are 60Si2Mn, 50CrV and all kinds of stainless steel materials.

Surface treatment: the surface treatment method of disc spring washer is bluing, phosphating, electroplating, electrophoresis and mechanical zinc plating, etc.

DIN6796碟形墊圈规格

The specifications of disc spring washer (DIN6796)

螺栓规格	D(mm)	d(mm)	t(mm)	Hmax(mm)	Hmin(mm)	载荷力 (N)	最小残存载荷 (N)
M2	5	2.2	0.4	0.6	0.5	***	***
M2.5	6	2.7	0.5	0.72	0.6	***	***
M3	7	3.2	0.6	0.85	0.72	***	***
M3.5	8	3.7	0.8	1.06	0.92	***	***
M4	9	4.3	1	1.3	1.12	4400	1400
M5	11	5.3	1.2	1.55	1.35	7200	2300
M6	14	6.4	1.5	2	1.7	10200	4200
M7	17	7.4	1.75	2.3	2	14800	6200
M8	18	8.4	2	2.6	2.2	18600	7700
M10	23	10.5	2.5	3.2	2.8	29600	12400
M12	29	13	3	3.95	3.4	43000	18000
M14	35	15	3.5	4.65	4	59100	25000
M16	39	17	4	5.25	4.6	80900	34000
M18	42	19	4.5	5.8	5.1	102000	57000
M20	45	21	5	6.4	5.6	130000	73000
M22	49	23	5.5	7.05	6.1	162000	91000
M24	56	25	6	7.75	6.8	188000	122000
M27	60	28	6.5	8.35	7.3	246000	161000
M30	70	31	7	9.2	8	300000	196000

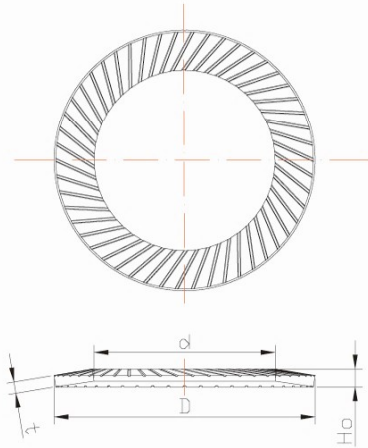


• Vs系列碟形弹簧防松垫圈

带齿防松垫圈有S系列和VS系列，垫圈与螺栓连接后，通过增加摩擦阻力，预防震动后螺栓产生的松弛。

造 材：根据客户使用条件，精选适合的材料，最大限度的满足客户需求。常用材料有65Mn，60Si2Mn等。

表面处理：防松垫圈的表面处理方法有发蓝、电镀、电泳和机械镀锌等。



• Vs series disc spring lock washer

Toothed lock washers including S series and VS series, after connection of washer and bolt, it can prevent bolt relaxation after vibration by increasing the friction resistance.

Materials: selecting suitable materials according to customer's use condition, in order to meet customer demands in maximum. The commonly used materials are 65Mn, 60Si2Mn, etc.

Surface treatment: the surface treatment method of lock washer is bluing, electroplating, electrophoresis and mechanical zinc plating, etc.



防松垫圈S系列规格

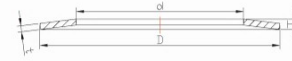
The specifications of S series lock washer

型号	D(mm)	d(mm)	t(mm)	Hmax(mm)	Hmin(mm)
S 1.6	3.2	1.7	0.35	0.6	0.38
S 2	4	2.2	0.35	0.6	0.39
S 2.5	4.8	2.7	0.45	0.9	0.49
S 3	5.5	3.2	0.45	0.9	0.51
S 3.5	6	3.7	0.45	0.9	0.52
S 4	7	4.3	0.5	1	0.59
S 5	9	5.3	0.5	1.1	0.73
S 6	10	6.4	0.7	1.2	0.82
S 6.35	9.5	6.7	0.7	1.2	0.79
S 7	12	7.4	0.7	1.3	0.89
S 8	13	8.4	0.8	1.4	0.98
S 10	16	10.5	1	1.6	1.21
S 11.1	15.9	11.6	1	1.6	1.18
S 12	18	13	1.1	1.7	1.31
S 12.7	19	13.7	1.1	1.8	1.33
S 14	22	15	1.2	2	1.52
S 16	24	17	1.3	2.1	1.63
S 18	27	19	1.5	2.3	1.85
S 19	30	20	1.5	2.5	1.98
S 20	30	21	1.5	2.5	1.94
S 22	33	23	1.5	2.7	2.08
S 24	36	25.6	1.8	2.9	2.32
S 25.4	38	27	2	3.1	2.52
S 27	39	28.6	2	3.1	2.52
S 30	45	31.6	2	3.6	2.78
S 33	50	34.6	2.5	4	3.26
S 36	54	38	2.5	4.2	3.38

防松垫圈VS系列规格

The specifications of VS series lock washer

型号	D(mm)	d(mm)	t(mm)	Hmax(mm)	Hmin(mm)
VS 5	9	5.3	1	1.3	1.07
VS 6	10	6.4	1	1.4	1.08
VS 8	13	8.4	1.2	1.7	1.32
VS 10	16	10.5	1.5	2	1.64
VS 12	18	13	1.5	2.1	1.65
VS 14	22	15	1.5	2.2	1.76
VS 16	24	17	2	2.6	2.21
VS 18	27	19	2	2.7	2.27
VS 20	30	21	2	2.8	2.34
VS 22	33	23	2	3	2.42
VS 24	36	25.6	2.5	3.4	2.87
VS 25	38	27	2.5	3.4	2.95
VS 27	39	28.6	2.5	3.5	2.91
VS 30	45	31.6	2.5	3.8	3.12
VS 33	50	34.6	3	4.5	3.65
VS 36	54	38	3	4.5	3.72



轴承预紧用碟形弹簧
Bearing preloaded disc spring

轴承预紧用碟形弹簧规格 The specifications of bearing preloaded disc spring

轴承尺寸		碟簧尺寸				碟形弹簧特性			
外径	内径	D(mm)	d(mm)	t(mm)	H(mm)	f=0.5ho	f=0.75ho	f=0.5ho	f=0.75ho
10	3	9.8	6.2	0.2	0.4	19	0.1	24	0.15
13	4	12.8	7.2	0.25	0.5	24	0.12	29	0.19
16	5, 4	15.8	8.2	0.25	0.55	20	0.15	23	0.22
19	6, 5	18.8	9.2	0.3	0.65	26	0.17	31	0.26
19	7	18.8	10.2	0.35	0.7	40	0.17	51	0.26
22	6, 7	21.8	12.3	0.35	0.75	38	0.2	46	0.3
24	9, 8	23.7	14.3	0.4	0.9	69	0.25	80	0.37
26	10, 7, 9	25.7	14.3	0.4	0.9	54	0.25	64	0.37
28	12, 8	27.7	17.3	0.4	1	73	0.3	80	0.45
30	10	29.7	17.3	0.4	1.1	80	0.35	82	0.52
32	15, 12	31.7	20.4	0.4	1.1	79	0.35	81	0.52
35	10	34.6	20.4	0.4	1.1	60	0.35	61	0.52
35	17, 15	34.6	22.4	0.5	1.2	106	0.35	119	0.52
37	12	36.6	20.4	0.5	1.3	103	0.4	111	0.6
40	17	39.6	25.5	0.5	1.3	103	0.4	111	0.6
42	20, 15	41.6	25.5	0.5	1.4	103	0.45	114	0.47
47	25, 17, 20	46.5	30.5	0.5	1.5	140	0.45	155	0.67
52	25, 20	51.5	35.5	0.6	1.5	123	0.45	135	0.67
55	30	54.5	40.5	0.6	1.5	127	0.45	140	0.67
62	35, 25, 30	61.5	40.5	0.7	1.8	164	0.55	186	0.82
68	40	67.5	50.5	0.7	1.7	140	0.5	160	0.75
72	30	71.5	45.5	0.7	2.1	190	0.7	185	1.05
72	35	71.5	50.5	0.7	2.1	222	0.7	217	1.05
75	45	74.5	55.5	0.8	1.9	186	0.55	212	0.82
80	35	79.5	50.5	0.8	2.3	228	0.75	228	1.12
80	50, 40	79.5	55.5	0.8	2.3	264	0.75	264	1.12
85	45	84.5	60.5	0.9	2.5	352	0.8	357	1.2
90	40	89.5	60.5	0.9	2.5	279	0.8	288	1.2
90	55, 50	89.5	65.5	0.9	2.5	329	0.8	333	1.2
95	60	94.5	75.5	1	2.2	271	0.6	324	0.9
100	45	99	65.5	1	2.6	273	0.8	293	1.2
100	65, 55	99	70.5	1	2.6	312	0.8	333	1.2
110	50	109	70.5	1.25	2.7	294	0.73	356	1.09
110	70, 60	109	75.5	1.25	2.7	326	0.73	394	1.09
115	75	114	90.5	1.25	2.45	314	0.6	396	0.9
120	55	119	75.5	1.25	2.8	270	0.78	319	1.16
120	65	119	85.5	1.25	2.8	331	0.78	391	1.16
125	80, 70	124	90.5	1.25	3	392	0.88	441	1.31
130	60	129	85.5	1.25	3.2	374	0.98	402	1.46
130	80, 75	129	95.5	1.25	3.2	466	0.98	510	1.46
140	65	139	90.5	1.25	3.25	328	1	353	1.5
140	90, 80	139	101	1.25	3.25	398	1	426	1.5
150	70	149	95.5	1.5	3.2	312	0.85	380	1.28
150	85	149	106	1.5	3.2	368	0.85	448	1.28
160	75	159	101	1.5	3.5	359	1	412	1.5
160	90	159	111	1.5	3.5	415	1	476	1.5
170	80	169	111	1.5	3.8	434	1.15	473	1.73
170	95	169	121	1.5	3.8	497	1.15	542	1.73
180	85	179	121	2	4.2	702	1.1	860	1.65
180	100	179	126	2	4.2	760	1.1	933	1.65
190	90	189	121	2	4.3	627	1.15	760	1.73
190	105	189	131	2	4.3	715	1.15	862	1.73
200	95	198	131	2	4.5	691	1.25	812	1.88
200	110	198	141	2	4.5	791	1.25	931	1.88
215	100	213	151	2.25	4.5	745	1.13	941	1.69
215	120	213	151	2.25	4.5	745	1.13	941	1.69
225	105	223	161	2.25	4.6	759	1.18	944	1.76
230	130	228	161	2.25	4.95	868	1.35	1035	2.02
240	110	238	161	2.25	5.25	883	1.5	1009	2.25
250	140	248	171	2.5	5	795	1.25	1001	1.88
260	120	258	171	2.5	5.5	926	1.5	1104	2.25
270	150	268	181	2.5	5.7	905	1.6	1055	2.4
280	130	278	181	2.5	6	1022	1.75	1153	2.62
290	160	288	193	2.75	5.75	951	1.5	1169	2.25
300	140	298	193	2.75	6.35	1152	1.8	1333	2.7
310	170	308	202	3	6.1	1039	1.55	1298	2.32
320	150	318	212	3	6.2	1035	1.6	1298	2.4
320	180	318	212	3	6.2	1035	1.6	1298	2.4
340	160	338	232	3	6.6	1189	1.8	1417	2.7
340	190	338	232	3	6.6	1189	1.8	1417	2.7
360	170	358	242	3	7.2	1350	2.1	1524	3.15
360	200	358	242	3	7.2	1350	2.1	1524	3.15
380	180	378	252	3.2	7.4	1352	2.1	1583	3.15
400	190	398	262	3.5	7.7	1483	2.1	1772	3.15
420	200	418	272	4	7.8	1548	1.9	1980	2.85



环簧选型系列规格 The specification of ring spring series

型号	环簧弹簧参数							导向尺寸		重量
	F KN	Se mm	We J	he mm	D1 mm	d1 mm	b/2 mm	D2 mm	d2 mm	Ge kg
HG1201	5	0.4	1	2.2	18.1	14.4	1.8	18.7	13.9	0.002
HG1202	9	0.6	2.7	3.1	25	20.8	2.5	25.9	20.1	0.004
HG1203	14	0.8	5.6	4	32	27	3.2	33.1	26.1	0.007
HG1204	20	0.9	9	4.7	38	31.7	3.8	39.3	30.6	0.012
HG1205	26	1	13	5.2	42.2	34.6	4.2	43.6	33.4	0.018
HG1206	34	1.1	18.7	5.9	48.2	39.4	4.8	49.8	38.1	0.026
HG1207	40	1.3	26	6.8	55	46	5.5	56.7	44.5	0.035
HG1208	54	1.4	37.8	7.7	63	51.9	6.3	64.9	50.3	0.056
HG1209	65	1.6	52	8.6	70	58.2	7	72.1	56.4	0.074
HG1310	83	1.8	75	9.8	80	67	8	83	64	0.105
HG1311	100	2	100	11	90	75.5	9	93	73	0.145
HG1312	125	2.2	138	12.2	100	84	10	103	81	0.203
HG1313	160	2.6	208	15	130	111.5	12.4	134	108	0.376
HG1314	200	2.6	260	15	124	102	12.4	128	98	0.408
HG1315	250	3	375	17	140	116	14	144	112	0.568
HG1316	350	3.7	648	20	166	134	16	170	130	0.869
HG1317	510	3.9	995	22.4	198	162	18.5	203	157	1.57
HG1318	600	4.4	1320	23.4	194	155	19	199	150	1.676
HG1319	720	4.4	1584	26.4	220	174	22	225	169	2.573
HG1320	860	4.8	2064	25.8	262	208	21	268	202	3.415
HG1221	1000	5.8	2900	35.8	300	250	30	306	245	5.51
HG1222	1200	6.2	3720	38.2	320	263	32	326	258	7.06
HG1223	1400	6.6	4620	41.6	350	288	35	356	283	9.18
HG1224	1800	7.6	6840	47.6	400	330	40	407	324	13.56

• 环簧

环簧是由内锥面的外环和外锥面的内环配合使用，在外力作用下通过内环的收缩，外环的扩张起到缓冲作用，它主要使用在空间受限制而又需要强力缓冲的场合。

适用场所：环簧具有体积小、储能大、组合使用方便等优良特性，广泛应用于国防、冶金、工程、电力、机床等机械行业。

设计：根据使用的现状条件及受力状况，用公司自主开发的计算机辅助设计系统，确定碟形弹簧垫圈的几何尺寸及相关加工要求。

造 材：根据客户使用条件，精选适合的材料，最大限度的满足客户需求。常用材料有 60Si2Mn, 50CrV 等。

表面处理：环簧的表面处理方法有发蓝、发黑等。

• Ring Spring

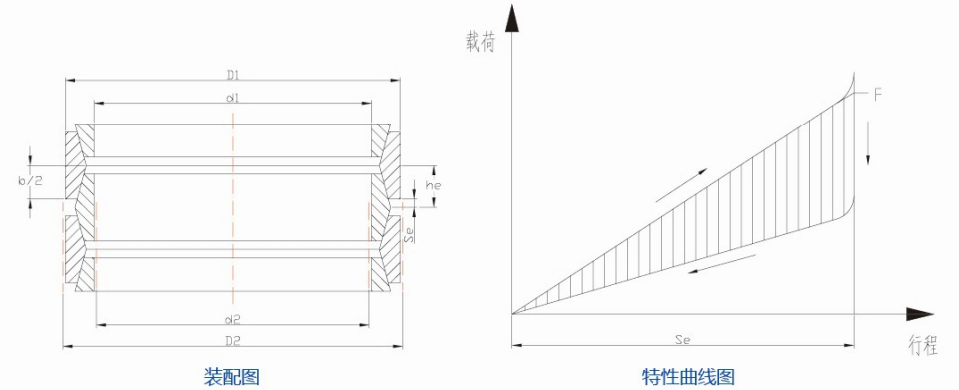
The ring spring is used cooperatively by the outer ring of interior conical and the inner ring of external conical, through inner ring contraction and outer ring expansion under the action of external force for buffer function, it is mainly used in the projects with limited space and needs strong buffer.

Applicable places: ring spring has the advantages of small volume, large energy storage, easy to assemble and other excellent characteristics, which are widely used in national defense, metallurgy, engineering, electricity, machine tool and other machinery industries.

Design: according to the present situation of use and force condition, using the computer aided design system independently developed by the company to confirm the geometric dimension of ring spring and related processing requirements.

Materials: selecting suitable materials according to customer's use condition, in order to meet customer demands in maximum. The commonly used materials are 60Si2Mn, 50CrV, etc.

Surface treatment: the surface treatment method of ring spring is bluing, black finish, etc.



D1 (mm)	外环尺寸
d1 (mm)	内环尺寸
b/2 (mm)	半环高
Se (mm)	一对接触面的间距
he (mm)	一对接触面的组合高度
D2 (mm)	外导向尺寸
d2 (mm)	内导向尺寸



• 截锥涡卷螺旋弹簧

截锥涡卷螺旋弹簧，又叫笋形弹簧，宝塔簧。主要特点是体积小、载荷大。广泛用于空间小、载荷大的场合进行减震装置。有等螺旋角、等节距、等应力三种结构。

可根据用户的不同要求进行设计，生产制造。

造 材：根据客户使用条件，精选适合的材料，最大限度的满足客户需求。常用材料有60Si2Mn, 50CrV等。

表面处理：截锥涡卷螺旋弹簧的表面处理方法有发蓝、喷漆等。

• Truncated cone scrolled spiral spring

Truncated cone scrolled spiral spring is also called volute spring, pagoda spring. Its main characteristic is small size with large load. It widely used for the damping device of projects with small space with large load. There are three kinds of structure including equal helix angle, equal pitch and equal stress. We can design and manufacture according to user's different requirements.

Materials: selecting suitable materials according to customer's use condition, in order to meet customer demands in maximum. The commonly used materials are 60Si2Mn, 50CrV, etc.

Surface treatment: the surface treatment method of truncated cone scrolled spiral spring is bluing, spray paint, etc. materials.

Surface treatment: the surface of the disc spring processing method there are blue, phosphating, electroplating, electrophoresis and mechanical galvanizing, etc.



• 异形弹簧

本公司生产各类不同的异形弹簧有螺旋弹簧（压簧、拉簧、扭簧）、条簧、板簧、发条簧等各类弹性产品。

造 材：根据客户使用条件，精选适合的材料，最大限度的满足客户需求。

制 造：异形弹簧的表面处理方法有发蓝、磷化、电镀、电泳、喷漆、机械镀锌等。

• Clutch diaphragm disc spring

Our company can produce various special-shaped spring including spiral spring (pressure spring, tension spring, torsion spring), strip spring, plate spring, clockwork spring and other kinds of elastic products.

Materials: selecting suitable materials according to customer's use condition, in order to meet customer demands in maximum.

Surface treatment: the surface treatment method of deformed spring is bluing, phosphating, electroplating, electrophoresis, spray paint and mechanical zinc plating, etc.



我们的辉煌业绩

Our glorious achievements



我们的产品畅销中国、东南亚、及欧洲部份国家。

Our products are sold well in China, Southeast Asia, and some European countries.



卓越的品质 完善的服务

为客户提供尽善尽美的产品与服务是我们的不懈追求；
让客户分享我们的进步是我们的永恒宗旨；
实现永续经营是我们的最终目标！

Excellent quality Perfect service

To provide customer with perfect products and services is our unremitting pursuit;
To share our progress with customers is our eternal purpose;
To achieve sustainable development is our ultimate goal!

03 | CASE 案例

01 上海铁路南站 Shanghai railway south railway station

铁路上海南站是上海中心城市的南大门，也是联系长江、珠江三角洲及中国南方其他城市包括港澳地区的重要交通枢纽。南站及周边地区以其独特的地利条件和投资优势，必将成为与徐家汇城市副中心功能互补的又一区域经济中心。我公司产品应用于基础减震平衡节点。



02 上海长江隧桥 Shanghai Yangtze river tunnel bridge



03 中国重汽 SINOTRUK



04 中国中车 CRRC



碟形弹簧标准参数表

D (mm)	d (mm)	t (mm)	h ₀ (mm)	H (mm)	f=0.25h ₀		f=0.5h ₀		f=0.75h ₀	
					P (N)	f (mm)	P (N)	f (mm)	P (N)	f (mm)
6	3.2	0.3	0.15	0.45	45	0.037	84	0.075	119	0.113
8	3.2	0.2	0.20	0.40	12	0.050	20	0.100	25	0.150
8	3.2	0.2	0.25	0.55	46	0.062	79	0.125	104	0.188
8	3.2	0.4	0.20	0.60	69	0.050	130	0.100	185	0.150
C8	4.2	0.2	0.25	0.45	21	0.060	33	0.125	39	0.190
B8	4.2	0.3	0.25	0.55	52	0.060	89	0.125	119	0.190
A8	4.2	0.4	0.20	0.60	78	0.050	147	0.100	210	0.150
10	3.2	0.3	0.35	0.65	51	0.087	82	0.175	98	0.263
10	3.2	0.4	0.30	0.70	75	0.075	133	0.150	179	0.225
10	3.2	0.5	0.25	0.75	104	0.062	195	0.125	279	0.188
10	4.2	0.4	0.30	0.70	79	0.075	140	0.150	189	0.225
10	4.2	0.5	0.25	0.75	110	0.062	206	0.125	294	0.188
C10	5.2	0.25	0.30	0.55	30	0.070	48	0.150	58	0.230
B10	5.2	0.4	0.30	0.70	88	0.075	155	0.150	209	0.225
A10	5.2	0.5	0.25	0.75	122	0.062	228	0.125	329	0.188
12	4.2	0.4	0.40	0.80	85	0.100	141	0.200	178	0.300
12	4.2	0.5	0.35	0.85	116	0.087	208	0.175	284	0.263
12	4.2	0.6	0.40	1.00	224	0.100	405	0.200	557	0.300
12	5.2	0.5	0.40	0.90	150	0.100	263	0.200	350	0.300
12	5.2	0.6	0.35	0.95	196	0.087	361	0.175	506	0.263
12	6.2	0.7	0.35	0.85	134	0.087	239	0.175	326	0.263
12	6.2	0.6	0.35	0.95	214	0.087	394	0.175	552	0.263
12.5	5.2	0.5	0.35	0.85	111	0.087	199	0.175	272	0.263
C12.5	6.2	0.35	0.45	0.80	84	0.110	130	0.225	151	0.340
B12.5	6.2	0.5	0.35	0.85	120	0.087	215	0.175	294	0.263
A12.5	6.2	0.7	0.30	1.00	239	0.070	457	0.150	659	0.230
C14	7.2	0.35	0.45	0.80	68	0.110	106	0.225	123	0.340
B14	7.2	0.5	0.40	0.90	120	0.100	210	0.200	279	0.300
A14	7.2	0.8	0.30	1.10	284	0.070	547	0.150	813	0.230
15	5.2	0.4	0.55	0.95	101	0.137	154	0.255	176	0.413
15	5.2	0.5	0.50	1.00	133	0.125	221	0.250	278	0.375
15	5.2	0.6	0.45	1.05	171	0.112	302	0.225	407	0.338
15	5.2	0.7	0.40	1.10	214	0.100	395	0.200	555	0.300
15	6.2	0.5	0.50	1.00	138	0.125	229	0.250	289	0.375
15	6.2	0.6	0.45	1.05	178	0.112	314	0.225	423	0.338
15	6.2	0.7	0.40	1.10	222	0.100	411	0.200	578	0.300
15	8.2	0.7	0.40	1.10	256	0.100	474	0.200	666	0.300
15	8.2	0.8	0.40	1.20	367	0.100	689	0.200	982	0.300
C16	8.2	0.4	0.50	0.90	64	0.120	131	0.250	155	0.380
B16	8.2	0.6	0.45	1.05	172	0.110	304	0.225	412	0.340
16	8.2	0.7	0.45	1.15	254	0.112	461	0.225	637	0.338
16	8.2	0.8	0.40	1.20	308	0.100	579	0.200	825	0.300
A16	8.2	0.9	0.35	1.25	362	0.087	697	0.175	1000	0.263
18	6.2	0.4	0.60	1.00	85	0.150	126	0.300	138	0.450
18	6.2	0.5	0.60	1.10	130	0.150	207	0.300	245	0.450
18	6.2	0.6	0.60	1.20	191	0.150	317	0.300	400	0.450
18	6.2	0.7	0.55	1.25	236	0.137	414	0.275	553	0.413
18	6.2	0.8	0.50	1.30	286	0.125	523	0.250	729	0.375
18	8.2	0.5	0.60	1.10	140	0.150	222	0.300	265	0.450
18	8.2	0.7	0.55	1.25	255	0.137	446	0.275	596	0.413
18	8.2	0.8	0.50	1.30	309	0.125	564	0.250	783	0.375
18	8.2	1	0.40	1.40	424	0.100	814	0.200	1180	0.300
C18	9.2	0.45	0.60	1.05	121	0.150	186	0.300	214	0.450
B18	9.2	0.7	0.50	1.20	233	0.120	416	0.250	572	0.380
A18	9.2	1	0.40	1.40	451	0.100	864	0.200	1250	0.300
20	8.2	0.6	0.70	1.30	214	0.175	342	0.350	412	0.525
20	8.2	0.7	0.65	1.35	262	0.162	442	0.325	569	0.488
20	8.2	0.8	0.60	1.40	315	0.150	557	0.300	751	0.450
20	8.2	0.9	0.55	1.45	374	0.137	685	0.275	954	0.413
20	8.2	1	0.55	1.55	494	0.137	917	0.275	1290	0.413
C20	10.2	0.5	0.65	1.15	141	0.160	219	0.375	254	0.490
B20	10.2	0.8	0.55	1.35	304	0.137	547	0.275	745	0.410
20	10.2	0.9	0.55	1.45	412	0.137	754	0.275	1050	0.413
20	10.2	1	0.55	1.55	543	0.137	1010	0.275	1430	0.413
A20	10.2	1.1	0.45	1.55	548	0.112	1050	0.225	1520	0.338
20	10.2	1.25	0.50	1.75	890	0.125	1710	0.25	2480	0.375
20	10.2	1.5	0.30	1.80	857	0.075	1690	0.150	2520	0.225
C22.5	11.2	0.6	0.80	1.40	240	0.200	370	0.400	425	0.600
B22.5	11.2	0.8	0.65	1.45	306	0.162	533	0.325	710	0.488
A22.5	11.2	1.25	0.50	1.75	693	0.125	1330	0.250	1950	0.375
23	8.2	0.7	0.80	1.50	279	0.200	448	0.400	544	0.600
23	8.2	0.8	0.75	1.55	334	0.187	560	0.375	719	0.563
23	8.2	0.9	0.70	1.60	391	0.175	686	0.350	919	0.525
23	8.2	1	0.70	1.70	507	0.175	909	0.350	1240	0.525
23	10.2	0.9	0.75	1.65	463	0.187	802	0.375	1060	0.563
23	10.2	1	0.70	1.70	538	0.175	964	0.350	1320	0.525
23	10.2	1.25	0.65	1.90	869	0.162	1630	0.325	2400	0.488
23	12.2	1	0.60	1.60	475	0.150	871	0.300	1220	0.450
23	12.2	1.25	0.60	1.85	863	0.150	1630	0.300	2330	0.450
23	12.2	1.5	0.50	2.00	1160	0.125	2250	0.250	3300	0.375

碟形弹簧标准参数表

D (mm)	d (mm)	t (mm)	h ₀ (mm)	H (mm)	f=0.25h ₀		f=0.5h ₀		f=0.75h ₀	
					P (N)	f (mm)	P (N)	f (mm)	P (N)	f (mm)
25	10.2	1	0.75	1.75	491	0.187	869	0.375	1170	0.563
C25	12.2	0.7	0.90	1.60	331	0.220	515	0.450	601	0.680
B25	12.2	0.9	0.70	1.60	367	0.175	644	0.350	868	0.525
25	12.2	1	0.80	1.80	585	0.200	1020	0.400	1360	0.600
25	12.2	1.25	0.70	1.95	848	0.175	1570	0.350	2210	0.525
A25	12.2	1.5	0.55	2.05	1040	0.137	2010	0.275	2910	0.413
28	10.2	0.8	0.95	1.75	348	0.237	552	0.475	662	0.713
28	10.2	1	0.90	1.90	512	0.225	871	0.450	1130	0.675
28	10.2	1.25	0.80	2.05	736	0.200	1340	0.400	1850	0.600
28	10.2	1.5	0.70	2.20	1000	0.175	1900	0.350	2720	0.525
28	12.2	1	0.95	1.95	590	0.237	991	0.475	1270	0.713
28	12.2	1.25	0.85	2.10	844	0.212	1520	0.425	2080	0.638
28	12.2	1.5	0.75	2.25	1150	0.187	2160	0.375	3080	0.563
C28	14.2	0.8	1.00	1.80	435	0.250	681	0.500	801	0.750
B28	14.2	1	0.80	1.80	476	0.200	832	0.400	1110	0.600
28	14.2	1.25	0.85	2.10	907	0.212	1630	0.425	2240	0.638
A28	14.2	1.5	0.65	2.15	1030	0.162	1970	0.325	2850	0.488
31.5	12.2	1	1.10	2.10	587	0.275	951	0.550	1170	0.825
31.5	12.2	1.25	0.95	2.20	761	0.237	1340	0.475	1810	0.713
31.5	12.2	1.5	0.85	2.35	1030	0.212	1910	0.425	2690	0.638
C31.5	16.3	0.8	1.05	1.85	384	0.260	594	0.525	687	0.790
B31.5	16.3	1.25	0.90	1.95	790	0.220	1410	0.450	1920	0.680
31.5	16.3	1.5	0.90	2.40	1260	0.225	2310	0.450	3230	0.675
A31.5	16.3	1.75	0.70	2.45	1390	0.175	2670	0.350	3900	0.525
31.5	16.3	2	0.75	2.75	2200	0.187	4240	0.375	6170	0.563
34	12.3	1	1.25	2.25	637	0.312	997	0.625	1170	0.938
34	12.3	1.25	1.10	2.35	815	0.275	1400	0.550	1820	0.825
34	12.3	1.5	1.00	2.50	1100	0.250	1980	0.500	2730	0.750
34	14.3	1.25	1.15	2.40	912	0.287	1550	0.575	1990	0.863
34	14.3	1.5	1.05	2.55	1220	0.262	2190	0.525	2990	0.788
34	16.3	1.5	1.05	2.55	1290	0.262	2310	0.525	3160	0.788
34	16.3	2	0.85	2.85	2100	0.212	4000	0.425	5780	0.638
C35.5	18.3	0.9	1.15	2.05	458	0.290	712	0.575	831	0.860
B35.5	18.3	1.25	1.00	2.25	731	0.250	1280	0.500	1700	0.750
A35.5	18.3	2	0.80	2.80	1860	0.200	3570	0.400	5190	0.600
40	14.3	1.25	1.40	2.65	904	0.350	1460	0.600	1700	1.050
40	14.3	1.5	1.25	2.75	1110	0.312	1930	0.625	2550	0.938
40	14.3	2	1.05	3.05	1800	0.262	3360	0.525	4770	0.788
40	16.3	1.5	1.30	2.80	1220	0.325	2100	0.650	2750	0.975
40	16.3	2	1.10	3.10	1970	0.275	3660	0.550	5170	0.825
40	18.3	2	1.15	3.15	2180	0.287	4030	0.575	5660	0.863
C40	20.4	1	1.30	2.30	565	0.320	875	0.650	1020	0.980
B40	20.4	1.5	1.15	2.65	1110	0.287	1950	0.575	2620	0.863
40	20.4	2	1.10	3.10	2170	0.275	4040	0.550	5700	0.825
A40	20.4	2.25	0.90	3.15	2340	0.225	4480	0.450	6540	0.675
40	20.4	2.5	0.95	3.45	3350	0.237	6450	0.475	9390	0.713
C45	22.4	1.25	1.60	2.85	1040	0.400	1620	0.800	1890	1.200
B45	22.4	1.75	1.30	3.05	1520	0.320	2700	0.650	3660	0.980
A45	22.4	2.5	1.00	3.50	2770	0.250	5320	0.500	7720	0.750
50	18.4	1.25	1.60	2.85	757	0.400	1170	0.800	1370	1.200
50	18.4	1.5	1.80	3.30	1380	0.450	2180	0.900	2610	1.320
50	18.4	2	1.50	3.50	1920	0.375	3390	0.750	4570	1.120
50	18.4	2.5	1.60	4.10	3700	0.400	6730	0.800	9320	1.200
50	20.4	3	1.40	5.040	5040	0.350	9540	0.700	13700	1.050
50	20.4	2	1.50	3.50	1970	0.375	3480	0.750	4690	1.125
50	20.4	2.5	1.35	3.85	3010	0.337	5600	0.675	7920	1.013
50	22.4	2	1.60	3.60	2250	0.400	3920	0.800	5220	1.20
50	22.4	2.5	1.40	3.90	3260	0.350	6040	0.700	8510	1.050
C50	25.4	1.25	1.60	2.85	853	0.400	1330	0.800	1550	1.200
50	25.4	1.5	1.60	3.10	1240	0.400	2030	0.800	2510	1.200
B50	25.4	2	1.40	3.40	1950	0.350	3490	0.700	4760	1.050
50	25.4	2.5	1.40	3.90	3470	0.350	6430	0.700	9060	1.050
A50	25.4	3	1.10	4.10	4250	0.275	8210	0.550	12000	0.825
C56	28.5	1.5	1.95	3.45	1460	0.490	2260	0.975	2620	1.460
B56	28.5	2	1.60	3.60	1910	0.400	3330	0.800	4440	1.200
A56	28.5	3	1.30	4.30	4140	0.320	7890	0.650	11400	0.980
60	20.5	2	2.10	4.10	2320	0.525	3800	1.050	4730	1.575
60	20.5	2.5	1.80	4.30	3020	0.450	5380	0.900	7300	1.350
60	20.5	3	1.70	4.70	4450	0.425	8230	0.850	11600	1.275
60	25.5	2.5	1.90	4.40	3450	0.475	6080	0.950	8180	1.425
60	25.5	3	1.65	4.65	4490	0.412	8350	0.825	11800	1.238
60	30.5	2.5	1.80	4.30	3450	0.450	5640	0.900	8340	1.350
60	30.5	3	1.70	5.080	7.425	9400	0.850	13200	1.275	
60	30.5	3.5	1.50	5.00	6590	0.375	12600	0.750	18200	1.125
C63	31	1.8	2.35	4.15	2360	0.590	3660	1.175	4240	1.760
B63	31	2.5	1.75	4.25	2940	0.440	5270	0.875	7180	1.310
63	31	3	1.80	4.80	4890	0.450	8980	0.900	12500	1.35
A63	31	3.5	1.40	5.400	5400	0.350	10400	0.700	15000	1.050

碟形弹簧标准参数表

D (mm)	d (mm)	t (mm)	h ₀ (mm)	H (mm)	f=0.25h ₀		f=0.5h ₀		f=0.75h ₀	
					P (N)	f (mm)	P (N)	f (mm)	P (N)	f (mm)
70	25.5	2	2.50	4.50	2410	0.625	3770	1.250	4440	1.875
70	30.5	2.5	2.40	4.90	3750	0.600	6290	1.200	8030	1.800
70	30.5	3	2.10	5.10	4670	0.525	8370	1.050	11400	1.575
70	35.5	3	2.10	5.10	5030	0.525	9000	1.050	12300	1.575
70	35.5	4	1.80	5.80	8750	0.450	16600	0.900	23900	1.350
70	40.5	4	1.60	5.60	8380	0.400	16100	0.800	23400	1.200
70	40.5	5	1.20	6.20	11500	0.300	22700	0.600	33700	0.900
C71	36	2	2.60	4.60	2860	0.650	4430	1.300	5140	1.950
B71	36	2.5	2.00	4.50	2890	0.500	5050	1.000	6730	1.500
A71	36	4	1.60	5.60	7360	0.400	14200	0.800	20500	1.200
80	31	2.5	2.80	5.30	3680	0.700	5933	1.400	7240	2.100
80	31	3	2.50	5.50	4530	0.625	7840	1.250	10400	1.875
80	31	4	2.10	6.10	7320	0.525	13700	1.050	19400	1.575
80	36	3	2.70	5.70	5400	0.675	9190	1.350	11900	2.025
80	36	4	2.20	6.20	8160	0.550	15200	1.100	21400	1.650
C80	41	2.25	2.95	5.20	3700	0.738	5710	1.475	6610	2.210
B80	41	3	2.30	5.30	4450	0.570	7830	1.150	10500	1.730
80	41	4	2.20	6.20	8720	0.550	16200	1.100	22900	1.650
A80	41	5	1.70	6.70	11800	0.420	22900	0.850	33550	1.280
C90	46	2.5	3.20	5.70	4230	0.800	6580	1.600	7680	2.400
B90	46	3.5	2.50	6.00	5830	0.620	10400	1.250	14200	1.880
A90	46	5	2.00	7.00	11300	0.500	21600	1.000	31400	1.500
100	41	4	3.20	7.20	8710	0.800	15200	1.600	20300	2.400
100	41	5	2.75	7.75	12300	0.687	22900	1.375	32400	2.063
C100	51	2.7	3.50	6.20	4780	0.870	7410	1.750	8610	2.630
B100	51	3.5	2.80	6.30	5620	0.700	9820	1.400	13100	2.100
100	51	4	3.00	7.00	8670	0.750	15300	1.500	20700	2.250
100	51	5	2.80	7.80	13900	0.700	25800	1.400	36400	2.100
A100	51	6	2.20	8.20	17100	0.550	32900	1.100	48000	1.650
C112	57	3	3.90	6.90	5830	0.970	9030	1.950	10500	2.930
B112	57	4	3.20	7.20	7640	0.800	13300	1.600	17800	2.400
A112	57	6	2.50	8.50	15800	0.620	30200	1.250	43800	1.880

D (mm)	d (mm)	t (mm)	t' (mm)	h ₀ (mm)	H (mm)	f=0.25h ₀		f=0.5h ₀		f=0.75h ₀	
						P (N)	f (mm)	P (N)	f (mm)	P (N)	f (mm)
125	41	4	-	4.20	8.20	8500	1.050	13900	2.100	17300	3.150
125	51	4	-	4.50	8.50	10100	1.125	16300	2.250	19800	3.375
125	51	5	-	3.90	8.90	13100	0.975	22900	1.950	30700	2.925
125	51	6	5.7	3.40	9.40	17000	0.850	31500	1.700	44300	2.550
125	61	5	-	4.00	9.00	14600	1.000	25500	2.000	34000	3.000
125	61	6	5.6	3.60	9.60	19800	0.900	36300	1.800	50700	2.700
125	61	8	7.5	2.90	10.9	33200	0.725	61400	1.450	93600	2.175
C125	61	3.5	-	4.50	8.00	8514	1.125	13230	2.250	15415	3.375
B125	64	5	-	3.50	8.50	12200	0.865	21900	1.750	30000	2.635
A125	64	8	7.5	2.60	10.60	30100	0.650	58600	1.300	85900	1.950
125	71	6	5.6	3.30	9.30	19500	0.825	36300	1.650	51200	2.475
125	71	8	7.4	2.40	10.40	29700	0.600	58100	1.200	85500	1.800
125	71	10	9.2	1.80	11.80	42000	0.450	83300	0.900	124000	1.350
C140	72	3.8	-	4.90	8.70	9510	1.220	14800	2.450	17200	3.680
B140	72	5	-	4.00	9.00	12600	1.000	21000	2.000	27900	3.000
A140	72	8	7.5	3.20	11.20	30600	0.800	58700	1.600	85300	2.400
150	61	5	-	5.30	10.30	15300	1.325	25000	2.650	31000	3.975
150	61	6	-	4.80	10.80	19600	1.200	34100	2.400	45500	3.600
150	71	6	-	4.80	10.80	20700	1.200	36200	2.400	48200	3.600
150	71	8	7.5	4.00	12.00	33500	1.000	63000	2.000	89800	3.000
150	81	8	7.5	3.70	11.70	32900	0.925	62400	1.850	89500	2.775
150	81	10	9.3	3.00	13.00	49500	0.750	94500	1.500	139000	2.250
C160	82	4.3	-	5.60	9.90	12200	1.400	18400	2.800	21800	4.200
B160	82	6	-	4.50	10.50	17200	1.120	30400	2.250	41100	3.380
A160	82	10	9.4	3.50	13.50	48900	0.870	94600	1.750	139000	2.630
C180	92	4.8	-	6.20	11.00	14600	1.550	22700	3.100	26400	4.650
B180	92	6	-	5.10	11.10	16600	1.270	28500	2.550	37500	3.830
A180	92	10	9.4	4.00	14.00	45000	1.000	86400	2.000	125000	3.000
200	82	8	7.6	6.20	14.20	33100	1.550	58200	3.100	78000	4.650
200	82	10	9.6	5.50	15.50	49400	1.275	91700	2.550	129000	4.125
200	82	12	11.5	4.60	16.60	65300	1.150	126000	2.300	183000	3.450
200	92	10	9.5	5.60	15.60	52700	1.400	97700	2.800	138000	4.200
200	92	12	11.4	4.80	16.80	71600	1.200	137000	2.400	199000	3.600
200	92	14	13.1	4.10	18.10	92800	1.025	181000	2.050	267000	3.075
C200	102	5.5	-	7.00	12.50	19800	1.750	30900	3.500	36100	5.250
B200	102	8	7.5	5.80	13.60	31200	1.400	56000	2.800	76400	4.200
200	102	10	9.4	5.60	15.60	45700	1.400	83500	2.800	114500	4.200
A200	102	12	11.25	4.20	16.20	64600	1.050	125000	2.100	183000	3.150
200	102	14	13.2	4.20	18.20	101000	1.050	196000	2.100	289000	3.150
200	112	12	11.1	4.20	16.20	69200	1.050	134000	2.100	196000	3.150
200	112	14	12.9	3.50	17.50	88200	0.875	173000	1.750	257000	2.625
200	112	16	14.8	2.80	18.80	103000	0.700	205000	1.400	305000	2.100
C225	112	6.5	6.2	7.10	13.60	22300	1.770	36500	3.550	44600	5.330
B225	112	8	7.5	6.50	14.50	30600	1.450	53300	2.850	70800	4.885
A225	112	12	11.25	5.00	17.00	61800	1.250	118000	2.500	171000	3.750
C250	102	10	9.6	8.00	18.00	54400	2.000	94900	4.000	126000	6.000
250	102	12	11.5	7.00	19.00	70800	1.750	131000	3.500	183000	5.250
C250	127	7	6.7	7.80	14.80	25600	1.950	41300	3.900	50500	5.850
B250	127	10	9.4	7.00	17.00	48700	1.750	82700	3.500	119000	5.250
250	127	12	11.25	7.30	19.30	82500	1.825	151000	3.650	211000	5.475
A250	127	14	13.1	5.60	21.60	89400	1.400	171000	2.800	249000	4.200
250	127	16	15	5.80	21.80	136000	1.450	262000	2.900	386000	4.350

非标准碟形弹簧

D/ mm	d/ mm	t(t'')/ mm	H/ mm	h/ mm	(h,t) h' / t'	=h _a	f=0.75h _a				Q/ (kg/1000t)
						σ _m /(N/mm ²)	f/mm	(H-f)/ mm	F/N	d'/(N/mm ²)	
260	131	14(12.9)	19.5	5.5	0.51	-1444	4.125	15.375	224687	1122	4012
260	131	11.5(10.6)	18	6.5	0.70	-1392	4.875	13.125	150851	1188	3296
260	131	9(8.3)	15.5	6.5	0.87	-1076	4.875	10.625	74483	986	2581
270	136	15(13.8)	21	6	0.52	-1565	4.5	16.500	279693	1223	4629
270	136	13(12)	19	6	0.58	-1351	4.5	14.500	183541	1087	4025
270	136	10(9.2)	17.5	7.5	0.90	-1276	5.625	11.875	109946	1189	3086
280	142	16(14.75)	22	6	0.49	-1560	4.5	17.500	315987	1202	5296
280	142	13(12)	20.5	7.5	0.71	-1566	5.625	14.875	218086	1341	4309
280	142	10(9.2)	17.5	7.5	0.90	-1192	5.625	11.875	102681	1113	3304
290	147	16(14.75)	22	6	0.49	-1454	4.500	17.500	294484	1120	5683
290	147	13(12)	20.5	7.5	0.71	-1459	5.625	14.875	203246	1249	4623
290	147	10(9.57)	18.5	8	0.91	-1244	6.000	12.500	118434	1161	3737
300	152	16(14.75)	22.5	6.5	0.53	-1469	4.875	17.625	299199	1151	6084
300	152	13.5(12.45)	21	7.5	0.69	-1417	5.625	15.375	211867	1202	5705
300	152	11(10.15)	19	8	0.87	-1220	6.000	13.000	126270	1122	4168
315	162	18(16.9)	25	7	0.48	-1629	5.250	19.750	419031	1236	7613
315	162	15(13.8)	23.5	8.5	0.7	-1635	6.375	17.125	297519	1380	6209
315	162	12(11.05)	21	9	0.9	-1368	6.750	14.250	169652	1283	4972
330	167	17(15.65)	24	7	0.53	-1469	5.250	18.750	378013	1108	8451
330	167	15(13.8)	23.5	8.5	0.70	-1473	6.375	17.125	272522	1259	6893
330	167	12(11.05)	21	9	0.90	-1234	6.000	15.000	153045	1150	5519
340	172	18(16.6)	25	7	0.51	-1384	5.250	19.750	356028	1045	8962
340	172	15(13.8)	23.5	8.5	0.70	-1387	6.375	17.125	256672	1186	7318
340	172	12(11.05)	21	9	0.90	-1162	6.750	14.250	144144	1083	5860
355	182	19(17.5)	27	8	0.54	-1626	6.000	21.000	516889	1275	10568
355	182	16.5(15.2)	26	9.5	0.71	-1576	7.125	18.875	353672	1359	8706
355	182	13(12)	23	10	0.92	-1239	7.500	15.500	189116	1128	6873
370	187	20(18.45)	28	9	0.52	-1484	6.000	22.000	476603	1275	11561
370	187	16.5(15.2)	26	9.5	0.70	-1438	7.125	18.875	322730	1233	9552
370	187	13(12)	23	10	0.92	-1180	7.500	15.500	172570	1105	7541
380	192	20(18.45)	28.5	8.5	0.54	-1492	6.375	22.125	476530	1179	12232
380	192	17(15.65)	27	10	0.73	-1478	7.500	19.500	352946	1275	10376
380	192	13.5(12.45)	23.5	10	0.89	-1163	7.500	16.000	182062	1077	8254
400	202	21(19.35)	29.5	8.5	0.52	-1416	6.375	23.125	496432	1108	14220
400	202	18(16.6)	28	10	0.69	-1416	7.500	20.500	375905	1168	12420
400	202	14(12.9)	24.5	10.5	0.90	-1142	7.875	16.625	192737	1062	9480
420	212	22(20.25)	31	9	0.53	-1423	6.750	24.250	548308	1118	6412
420	212	19(17.5)	29.5	10.5	0.69	-1422	7.875	21.625	420725	1204	14183
420	212	15(13.8)	26	11	0.88	-1163	8.250	17.750	224394	1076	11185
440	222	23(21.1)	32.5	9.5	0.54	-1431	7.125	25.375	602805	1132	18775
440	222	20(18.45)	31.5	11.5	0.71	-1491	8.625	22.875	491415	1274	16416
440	222	16(14.75)	28	12	0.90	-1232	9.000	19.000	274589	1145	13124
450	227	25(22.95)	34.5	11	0.55	-1718	8.250	27.750	839748	1169	21455
450	227	21(19.35)	33	12	0.71	-1562	9.000	24.000	567109	1334	18011
450	227	16(14.75)	28	12	0.90	-1178	9.000	19.000	259623	1095	13729
480	242	26(23.95)	36	10	0.50	-1432	7.500	28.500	767144	1108	25373
480	242	21.5(19.8)	34	12.5	0.72	-1463	9.375	24.625	557948	1256	20977
480	242	17(15.65)	30	13	0.92	-1190	9.750	20.250	297357	1115	16580
500	253	27(24.85)	38	11	0.53	-1509	8.250	29.750	875297	1186	28497
500	253	22.5(20.75)	35.5	12.5	0.71	-1414	9.375	26.125	596978	1220	23794
500	253	18(16.6)	31.5	13.5	0.90	-1214	10.125	21.375	337473	1100	19379