



ABOUT US

We would like to introduce ourselves as a team of experienced professionals and technical people involved in manufacturing of specialized engineering products.

Uma Spring Private Limited Specialize in Manufacturing of

Disc Springs as per DIN2093/EN16983

Belleville Washer as Per DIN6796

SAFE LOCK Washer

Wave Washer

Coil Spring

Fine Blank Component

Deep Drawing Component

These Products are made with Spring steel (51CrV4, Stainless Steel grade SS301, SS304 & SS316, 17-7Ph, Inconel X-750 & Inconel X-718)

These Products are manufactured according to the international specification and Customize designs provided by the customers. We have a well-equipped manufacturing unit situated at Surendranagar, Gujarat to cater the demands of our worldwide customers. Quality assurance is of prime importance to us, hence only high quality products are being Manufactured by adopting latest technology. We are committed for quality, reliability, competitive Prices and timely delivery which make sense to select and use our products.

OUR VISION

To be a global leader in the manufacturing of Our products & To Be recognized for our unwavering commitment to excellence, innovation, and customer satisfaction.

OUR MISSION

Our mission is to engineer and deliver superior products that exceed customer expectations, enhance the performance and reliability of critical assemblies across industries, and drive the success of our partners through continuous improvement, technical expertise, and unparalleled service.

OUR GOAL

Quality Leadership

To maintain our position as a market leader in quality and reliability, setting the benchmark for excellence in the manufacturing of our products.

Innovation and Product Development

To drive innovation and product development initiatives that anticipate and address emerging market trends, technological advancements, and customer needs.

Customer Satisfaction

To exceed customer expectations at every touch point, providing exceptional products, service, and support that drive customer loyalty, satisfaction, and repeat business.

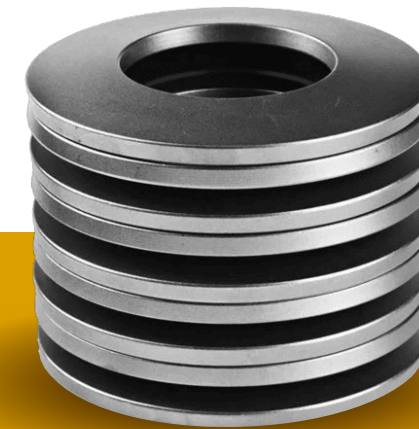
Global Expansion

To expand our presence and market reach on a global scale, establishing strategic partnerships, distribution channels, and manufacturing facilities in key regions to better serve our customers and capture new opportunities for growth and expansion.



DISC SPRING

Disc springs are conically formed angular discs which are loaded in the axial direction. They can be statically loaded as well subject to continuous dynamic loads. They can be used as single disc or in multiple stack combination to achieve desired deflections and characteristics.



Disc Springs are Conical in shape and have an unique combination of high force in small space with customised deflection. Normally Disc Springs are loaded in Axial Direction. USPL Disc Springs offer a well-developed solution to many engineering problems.

Disc Springs offer a well developed solution to many engineering problems through a unique combination of high force in a small space. Disc Springs can be used as single disc or arranged in stacks. A spring stack can consist of either single spring or parallel spring sets. Disc springs and Belleville Washers are manufactured to DIN2093 / EN 16983 and DIN6796. Disc spring stacks may be designed for extremely high loads where coil springs are not feasible at all. The standard disc springs shown are generally available from stock. We can make many special sizes to customer requirements. Engineering assistance is available upon request.



Features of Disc Spring Washer

- Greater security of operation service, as failure of one disc spring element within a stack does not totally lead of failure of entire assembly.
- Spring load achieved by reciprocally alternating disc.
- Axial load achieved by application of guide bolt or sleeve.
- High damping capacity through friction, which can be increased by parallel stacking.
- Load, stack height and travel can be determined and changed as needed.

They can be used as single disc or on multiple stack combination to achieve desired deflection and characteristics.



Stacked in
Parallel
Total
Deflection =
Deflection of
1 disc
Total Load =
Load on 1 disc x
No. of discs

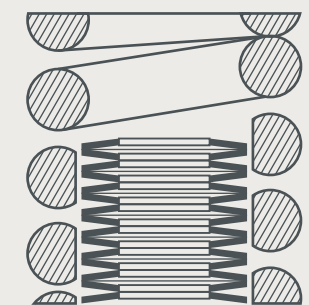


Series
Total
Deflection =
Deflection of
1 disc x
No. disc in
stack
Total Load =
Load on 1 disc



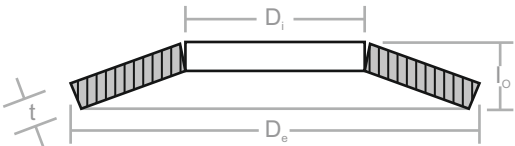
Parallel Series
Combinations
can be designed
to accommodate
virtually any load
of deflection and
to obtain
progressive
or regressive
characteristics.

Comparison with Coil Springs



Where same load is achieved in less space

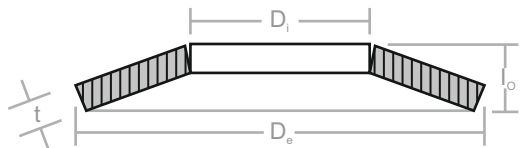
DISC SPRING



Part No.	Series	Dimensions											
		D _e (mm)	D _i (mm)	t (mm)	L ₀ (mm)	t' (mm)	Group	0.25 h ₀		0.50 h ₀		0.75 h ₀	
								F (N)	S (mm)	F (N)	S (mm)	F (N)	S (mm)
UDS6X3.2X0.3		6.0	3.2	0.30	0.45	-	1	45	0.038	84	0.075	119	0.113
UDS8X3.2X0.2		8.0	3.2	0.20	0.40	-	1	12	0.050	21	0.100	26	0.150
UDS8X3.2X0.3		8.0	3.2	0.30	0.55	-	1	46	0.063	79	0.125	104	0.188
UDS8X3.2X0.4		8.0	3.2	0.40	0.60	-	1	69	0.050	130	0.100	186	0.150
UDS8X3.2X0.5		8.0	3.2	0.50	0.70	-	1	128	0.050	246	0.100	357	0.150
UDS8X4.2X0.2	C	8.0	4.2	0.20	0.45	-	1	21	0.063	33	0.125	39	0.188
UDS8X4.2X0.3	B	8.0	4.2	0.30	0.55	-	1	52	0.063	89	0.125	118	0.188
UDS8X4.2X0.4	A	8.0	4.2	0.40	0.60	-	1	78	0.050	147	0.100	210	0.150
UDS10X3.2X0.3		10.0	3.2	0.30	0.65	-	1	51	0.088	82	0.175	98	0.263
UDS10X3.2X0.4		10.0	3.2	0.40	0.70	-	1	75	0.075	133	0.150	179	0.225
UDS10X3.2X0.5		10.0	3.2	0.50	0.75	-	1	104	0.063	196	0.125	279	0.188
UDS10X4.2X0.4		10.0	4.2	0.40	0.70	-	1	79	0.075	140	0.150	189	0.225
UDS10X4.2X0.5		10.0	4.2	0.50	0.75	-	1	110	0.063	206	0.125	294	0.188
UDS10X4.2X0.6		10.0	4.2	0.60	0.85	-	1	175	0.060	360	0.125	508	0.190
UDS10X5.2X0.25	C	10.0	5.2	0.25	0.55	-	1	31	0.075	48	0.150	58	0.225
UDS10X5.2X0.4	B	10.0	5.2	0.40	0.70	-	1	88	0.075	155	0.150	209	0.225
UDS10X5.2X0.5	A	10.0	5.2	0.50	0.75	-	1	122	0.063	228	0.125	325	0.188
UDS12X4.2X0.4		12.0	4.2	0.40	0.80	-	1	85	0.100	141	0.200	178	0.300
UDS12X4.2X0.5		12.0	4.2	0.50	0.85	-	1	116	0.088	208	0.175	284	0.263
UDS12X4.2X0.6		12.0	4.2	0.60	1.00	-	1	224	0.100	405	0.200	557	0.300
UDS12X5.2X0.5		12.0	5.2	0.50	0.90	-	1	151	0.100	263	0.200	350	0.300
UDS12X5.2X0.6		12.0	5.2	0.60	0.95	-	1	196	0.088	361	0.175	506	0.263
UDS12X6.2X0.5		12.0	6.2	0.50	0.85	-	1	134	0.088	239	0.175	326	0.263
UDS12X6.2X0.6		12.0	6.2	0.60	0.95	-	1	214	0.088	394	0.175	552	0.263
UDS12.5X5.2X0.5		12.5	5.2	0.50	0.85	-	1	111	0.088	200	0.175	272	0.263
UDS12.5X6.2X0.35	C	12.5	6.2	0.35	0.80	-	1	84	0.113	130	0.225	151	0.338
UDS12.5X6.2X0.5	B	12.5	6.2	0.50	0.85	-	1	120	0.088	215	0.175	294	0.263
C75 UDS12.5X6.2	A	12.5	6.2	0.70	1.00	-	1	240	0.075	457	0.150	660	0.225
UDS14X7.2X0.35	C	14.0	7.2	0.35	0.80	-	1	68	0.113	106	0.225	123	0.338
UDS14X7.2X0.5	B	14.0	7.2	0.50	0.90	-	1	120	0.100	210	0.200	279	0.300
UDS14X7.2X0.8	A	14.0	7.2	0.80	1.10	-	1	284	0.075	547	0.150	797	0.225
UDS15X5.2X0.4		15.0	5.2	0.40	0.95	-	1	101	0.138	154	0.275	176	0.413
UDS15X5.2X0.5		15.0	5.2	0.50	1.00	-	1	133	0.125	221	0.250	278	0.375
UDS15X5.2X0.6		15.0	5.2	0.60	1.05	-	1	171	0.113	302	0.225	407	0.338
UDS15X5.2X0.7		15.0	5.2	0.70	1.10	-	1	214	0.100	395	0.200	555	0.300
UDS15X6.2X0.5		15.0	6.2	0.50	1.00	-	1	138	0.125	230	0.250	289	0.375
UDS15X6.2X0.6		15.0	6.2	0.60	1.05	-	1	178	0.113	314	0.225	424	0.338
UDS15X6.2X0.7		15.0	6.2	0.70	1.10	-	1	222	0.100	411	0.200	578	0.300
UDS15X8.2X0.7		15.0	8.2	0.70	1.10	-	1	256	0.100	474	0.200	666	0.300
UDS15X8.2X0.8		15.0	8.2	0.80	1.20	-	1	367	0.100	689	0.200	982	0.300
UDS16X8.2X0.4	C	16.0	8.2	0.40	0.90	-	1	84	0.125	131	0.250	154	0.375
UDS16X8.2X0.6	B	16.0	8.2	0.60	1.05	-	1	172	0.113	304	0.225	410	0.338

Part No.	Series	Dimensions												
		D _e (mm)	D _i (mm)	t (mm)	L ₀ (mm)	t' (mm)	Group	0.25 ho		0.50 ho		0.75 ho		
								F (N)	S (mm)	F (N)	S (mm)	F (N)	S (mm)	
UDS16X8.2X0.7	A	16.0	8.2	0.70	1.15	-	1	254	0.113	461	0.225	637	0.338	
UDS16X8.2X0.8		16.0	8.2	0.80	1.20	-	1	308	0.100	579	0.200	825	0.300	
UDS16X8.2X0.9		16.0	8.2	0.90	1.25	-	1	363	0.088	697	0.175	1013	0.263	
UDS18X6.2X0.4		18.0	6.2	0.40	1.00	-	1	85	0.150	126	0.300	139	0.450	
UDS18X6.2X0.5		18.0	6.2	0.50	1.10	-	1	130	0.150	206	0.300	246	0.450	
UDS18X6.2X0.6		18.0	6.2	0.60	1.20	-	1	191	0.150	317	0.300	400	0.450	
UDS18X6.2X0.7		18.0	6.2	0.70	1.25	-	1	236	0.138	414	0.275	553	0.413	
UDS18X6.2X0.8		18.0	6.2	0.80	1.30	-	1	286	0.125	523	0.250	726	0.375	
UDS18X8.2X0.5		18.0	8.2	0.50	1.10	-	1	140	0.150	222	0.300	265	0.450	
UDS18X8.2X0.7		18.0	8.2	0.70	1.25	-	1	255	0.138	446	0.275	596	0.413	
UDS18X8.2X0.8		18.0	8.2	0.80	1.30	-	1	309	0.125	564	0.250	783	0.375	
UDS18X8.2X1		18.0	8.2	1.00	1.40	-	1	425	0.100	815	0.200	1181	0.300	
UDS18X9.2X0.45		C	18.0	9.2	0.45	1.05	-	1	121	0.150	186	0.300	214	0.450
UDS18X9.2X0.7		B	18.0	9.2	0.70	1.20	-	1	233	0.125	417	0.250	566	0.375
UDS18X9.2X1	A	18.0	9.2	1.00	1.40	-	1	451	0.100	865	0.200	1254	0.300	
UDS20X8.2X0.5		20.0	8.2	0.50	1.15	-	1	127	0.163	200	0.325	231	0.490	
UDS20X8.2X0.6		20.0	8.2	0.60	1.30	-	1	214	0.175	342	0.350	412	0.525	
UDS20X8.2X0.7		20.0	8.2	0.70	1.35	-	1	262	0.163	442	0.325	569	0.488	
UDS20X8.2X0.8		20.0	8.2	0.80	1.40	-	1	315	0.150	557	0.300	751	0.450	
UDS20X8.2X0.9		20.0	8.2	0.90	1.45	-	1	374	0.138	685	0.275	954	0.413	
UDS20X8.2X1		20.0	8.2	1.00	1.55	-	1	494	0.138	918	0.275	1295	0.413	
UDS20X10.2X0.4		C	20.0	10.2	0.40	0.90	-	1	55	0.130	84	0.250	99	0.380
UDS20X10.2X0.5	20.0		10.2	0.50	1.15	-	1	141	0.163	219	0.325	254	0.488	
UDS20X10.2X0.8	B	20.0	10.2	0.80	1.35	-	1	304	0.138	547	0.275	748	0.413	
UDS20X10.2X0.9		20.0	10.2	0.90	1.45	-	1	412	0.138	754	0.275	1050	0.413	
UDS20X10.2X1	A	20.0	10.2	1.00	1.55	-	1	544	0.138	1010	0.275	1425	0.413	
UDS20X10.2X1.1		20.0	10.2	1.10	1.55	-	1	548	0.113	1050	0.225	1521	0.338	
UDS20X10.2X1.25		20.0	10.2	1.25	1.75	-	1	890	0.125	1708	0.250	2477	0.375	
UDS20X10.2X1.5		20.0	10.2	1.50	1.80	-	2	857	0.075	1695	0.150	2521	0.225	
UDS22.5X11.2X0.6	C	22.5	11.2	0.60	1.40	-	1	241	0.200	370	0.400	426	0.600	
UDS22.5X11.2X0.8	B	22.5	11.2	0.80	1.45	-	1	306	0.163	533	0.325	708	0.488	
UDS22.5X11.2X1.25	A	22.5	11.2	1.25	1.75	-	2	693	0.125	1330	0.250	1929	0.375	
UDS23X8.2X0.7		23.0	8.2	0.70	1.50	-	1	280	0.200	448	0.400	544	0.600	
UDS23X8.2X0.8		23.0	8.2	0.80	1.55	-	1	332	0.188	560	0.375	719	0.563	
UDS23X8.2X0.9		23.0	8.2	0.90	1.60	-	1	391	0.175	687	0.350	919	0.525	
UDS23X8.2X1		23.0	8.2	1.00	1.70	-	1	507	0.175	909	0.350	1240	0.525	
UDS23X10.2X0.9		23.0	10.2	0.90	1.65	-	1	463	0.188	802	0.375	1058	0.563	
UDS23X10.2X1		23.0	10.2	1.00	1.70	-	1	538	0.175	964	0.350	1315	0.525	
UDS23X10.2X1.25		23.0	10.2	1.25	1.90	-	2	870	0.163	1627	0.325	2310	0.488	
UDS23X12.2X1		23.0	12.2	1.00	1.60	-	1	475	0.150	872	0.300	1217	0.450	
UDS23X12.2X1.25		23.0	12.2	1.25	1.85	-	2	864	0.150	1630	0.300	2331	0.450	
UDS23X12.2X1.5		23.0	12.2	1.50	2.00	-	2	1159	0.125	2250	0.250	3297	0.375	
UDS25X10.2X1		25.0	10.2	1.00	1.75	-	1	492	0.188	870	0.375	1172	0.563	
UDS25X12.2X0.7		C	25.0	12.2	0.70	1.60	-	1	331	0.225	515	0.450	600	0.675
UDS25X12.2X0.9		B	25.0	12.2	0.90	1.60	-	1	367	0.175	644	0.350	862	0.525
UDS25X12.2X1		25.0	12.2	1.00	1.80	-	1	585	0.200	1021	0.400	1359	0.600	

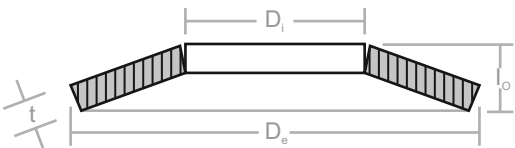
DISC SPRING



Part No.	Series	Dimensions											
		D _e (mm)	D _i (mm)	t (mm)	L ₀ (mm)	t' (mm)	Group	0.25 h ₀		0.50 h ₀		0.75 h ₀	
								F (N)	S (mm)	F (N)	S (mm)	F (N)	S (mm)
UDS25X12.2X1.25	A	25.0	12.2	1.25	1.95	-	2	848	0.175	1573	0.350	2214	0.525
UDS25X12.2X1.5		25.0	12.2	1.50	2.05	-	2	1040	0.138	2007	0.275	2926	0.413
UDS28X10.2X0.8		28.0	10.2	0.80	1.75	-	1	348	0.238	553	0.475	662	0.713
UDS28X10.2X1		28.0	10.2	1.00	1.90	-	1	512	0.225	872	0.450	1130	0.675
UDS28X10.2X1.25		28.0	10.2	1.25	2.05	-	2	737	0.200	1339	0.400	1853	0.600
UDS28X10.2X1.5		28.0	10.2	1.50	2.20	-	2	1003	0.175	1899	0.350	2723	0.525
UDS28X12.2X1		28.0	12.2	1.00	1.95	-	1	590	0.238	992	0.475	1268	0.713
UDS28X12.2X1.25		28.0	12.2	1.25	2.10	-	2	844	0.213	1519	0.425	2083	0.638
UDS28X12.2X1.5		28.0	12.2	1.50	2.25	-	2	1149	0.188	2159	0.375	3077	0.563
UDS28X14.2X0.8	C	28.0	14.2	0.80	1.80	-	1	435	0.250	681	0.500	801	0.750
UDS28X14.2X1	B	28.0	14.2	1.00	1.80	-	1	476	0.200	832	0.400	1107	0.600
UDS28X14.2X1.25	A	28.0	14.2	1.25	2.10	-	2	907	0.213	1634	0.425	2240	0.638
UDS28X14.2X1.5		28.0	14.2	1.50	2.15	-	2	1033	0.163	1970	0.325	2841	0.488
UDS31.5X12.2X1		31.5	12.2	1.00	2.10	-	1	587	0.275	951	0.550	1167	0.825
UDS31.5X12.2X1.25		31.5	12.2	1.25	2.20	-	2	761	0.238	1343	0.475	1805	0.713
UDS31.5X12.2X1.5		31.5	12.2	1.50	2.35	-	2	1033	0.213	1912	0.425	2688	0.638
UDS31.5X16.3X0.8	C	31.5	16.3	0.80	1.85	-	1	384	0.263	594	0.525	687	0.788
UDS31.5X16.3X1.25	B	31.5	16.3	1.25	2.15	-	2	791	0.225	1409	0.450	1913	0.675
UDS31.5X16.3X1.5	A	31.5	16.3	1.50	2.40	-	2	1260	0.225	2314	0.450	3230	0.675
UDS31.5X16.3X1.75		31.5	16.3	1.75	2.45	-	2	1391	0.175	2669	0.350	3871	0.525
UDS31.5X16.3X2		31.5	16.3	2.00	2.75	-	2	2199	0.188	4239	0.375	6173	0.563
UDS34X12.3X1		34.0	12.3	1.00	2.25	-	1	637	0.313	998	0.625	1174	0.938
UDS34X12.3X1.25		34.0	12.3	1.25	2.35	-	2	815	0.275	1395	0.550	1818	0.825
UDS34X12.3X1.5		34.0	12.3	1.50	2.50	-	2	1097	0.250	1982	0.500	2725	0.750
UDS34X14.3X1.25		34.0	14.3	1.25	2.40	-	2	913	0.288	1546	0.575	1993	0.863
UDS34X14.3X1.5		34.0	14.3	1.50	2.55	-	2	1224	0.263	2192	0.525	2990	0.788
UDS34X16.3X1.5		34.0	16.3	1.50	2.55	-	2	1291	0.263	2313	0.525	3155	0.788
UDS34X16.3X2		34.0	16.3	2.00	2.85	-	2	2097	0.213	4003	0.425	5783	0.638
UDS35.5X18.3X0.9	C	35.5	18.3	0.90	2.05	-	1	458	0.288	712	0.575	832	0.863
UDS35.5X18.3X1.25	B	35.5	18.3	1.25	2.25	-	2	731	0.250	1277	0.500	1699	0.750
UDS35.5X18.3X2	A	35.5	18.3	2.00	2.80	-	2	1864	0.200	3576	0.400	5187	0.600
UDS40X14.3X1.25		40.0	14.3	1.25	2.65	-	2	904	0.350	1459	0.700	1780	1.050
UDS40X14.3X1.5		40.0	14.3	1.50	2.75	-	2	1114	0.313	1929	0.625	2545	0.938
UDS40X14.3X2		40.0	14.3	2.00	3.05	-	2	1800	0.263	3363	0.525	4769	0.788
UDS40X16.3X1.5		40.0	16.3	1.50	2.80	-	2	1224	0.325	2102	0.650	2749	0.975
UDS40X16.3X2		40.0	16.3	2.00	3.10	-	2	1972	0.275	3663	0.550	5169	0.825
UDS40X18.3X2		40.0	18.3	2.00	3.15	-	2	2182	0.288	4030	0.575	5656	0.863
UDS40X20.4X1	C	40.0	20.4	1.00	2.30	-	1	565	0.325	876	0.650	1017	0.975
UDS40X20.4X1.5	B	40.0	20.4	1.50	2.65	-	2	1109	0.288	1953	0.575	2621	0.863
UDS40X20.4X2	A	40.0	20.4	2.00	3.10	-	2	2175	0.275	4041	0.550	5701	0.825
UDS40X20.4X2.25		40.0	20.4	2.25	3.15	-	2	2336	0.225	4481	0.450	6500	0.675
UDS40X20.4X2.5		40.0	20.4	2.50	3.45	-	2	3351	0.238	6453	0.475	9390	0.713
UDS45X22.4X1.25	C	45.0	22.4	1.25	2.85	-	2	1041	0.400	1620	0.800	1891	1.200

Part No.	Series	Dimensions												
		D _e (mm)	D _i (mm)	t (mm)	L ₀ (mm)	t' (mm)	Group	0.25 ho		0.50 ho		0.75 ho		
								F (N)	S (mm)	F (N)	S (mm)	F (N)	S (mm)	
UDS45X22.4X1.75	B	45.0	22.4	1.75	3.05	-	2	1524	0.325	2701	0.650	3646	0.975	
UDS45X22.4X2.5	A	45.0	22.4	2.50	3.50	-	2	2773	0.250	5320	0.500	7716	0.750	
UDS50X18.4X1.25		50.0	18.4	1.25	2.85	-	2	757	0.400	1178	0.800	1375	1.200	
UDS50X18.4X1.5		50.0	18.4	1.50	3.30	-	2	1379	0.450	2184	0.900	2606	1.350	
UDS50X18.4X2		50.0	18.4	2.00	3.50	-	2	1918	0.375	3392	0.750	4572	1.125	
UDS50X18.4X2.5		50.0	18.4	2.50	4.10	-	2	3703	0.400	6733	0.800	9315	1.200	
UDS50X18.4X3		50.0	18.4	3.00	4.40	-	2	5043	0.350	9546	0.700	13688	1.050	
UDS50X20.4X2		50.0	20.4	2.00	3.50	-	2	1966	0.375	3478	0.750	4687	1.125	
UDS50X20.4X2.5		50.0	20.4	2.50	3.85	-	2	3008	0.338	5601	0.675	7919	1.013	
UDS50X22.4X2		50.0	22.4	2.00	3.60	-	2	2247	0.400	3924	0.800	5222	1.200	
UDS50X22.4X2.5		50.0	22.4	2.50	3.90	-	2	3261	0.350	6044	0.700	8510	1.050	
UDS50X25.4X1.25		C	50.0	25.4	1.25	2.85	-	2	854	0.400	1328	0.800	1550	1.200
UDS50X25.4X1.5		B	50.0	25.4	1.50	3.10	-	2	1242	0.400	2028	0.800	2512	1.200
UDS50X25.4X2			50.0	25.4	2.00	3.40	-	2	1949	0.350	3491	0.700	4762	1.050
UDS50X25.4X2.25			50.0	25.4	2.25	3.75	-	2	2940	0.380	5249	0.750	7241	1.130
UDS50X25.4X2.5		50.0	25.4	2.50	3.90	-	2	3473	0.350	6437	0.700	9063	1.050	
UDS50X25.4X3		A	50.0	25.4	3.00	4.10	-	2	4255	0.275	8214	0.550	11976	0.825
UDS56X28.5X1.5	C	56.0	28.5	1.50	3.45	-	2	1458	0.488	2259	0.975	2622	1.463	
UDS56X28.5X2	B	56.0	28.5	2.00	3.60	-	2	1910	0.400	3335	0.800	4438	1.200	
UDS56X28.5X2.5	A	56.0	28.5	2.50	4.20	-	2	3676	0.430	6550	0.850	9004	1.280	
UDS56X28.5X3		56.0	28.5	3.00	4.30	-	2	4142	0.325	7895	0.650	11388	0.975	
UDS60X20.5X2		60.0	20.5	2.00	4.10	-	2	2318	0.525	3802	1.050	4730	1.575	
UDS60X20.5X2.5		60.0	20.5	2.50	4.30	-	2	3018	0.450	5379	0.900	7302	1.350	
UDS60X20.5X3		60.0	20.5	3.00	4.70	-	2	4449	0.425	8234	0.850	11577	1.275	
UDS60X25.5X2.5		60.0	25.5	2.50	4.40	-	2	3447	0.475	6081	0.950	8175	1.425	
UDS60X25.5X3		60.0	25.5	3.00	4.65	-	2	4495	0.413	8352	0.825	11784	1.238	
UDS60X30.5X2.5		60.0	30.5	2.50	4.30	-	2	3447	0.450	6145	0.900	8342	1.350	
UDS60X30.5X2.75		60.0	30.5	2.75	4.75	-	2	5125	0.500	9117	1.000	12360	1.500	
UDS60X30.5X3		60.0	30.5	3.00	4.70	-	2	5083	0.425	9407	0.850	13226	1.275	
UDS60X30.5X3.5		60.0	30.5	3.50	5.00	-	2	6591	0.375	12574	0.750	18153	1.125	
UDS63X31X1.8		C	63.0	31.0	1.80	4.15	-	2	2364	0.588	3658	1.175	4238	1.763
UDS63X31X2.5	B	63.0	31.0	2.50	4.25	-	2	2942	0.438	5270	0.875	7189	1.313	
UDS63X31X3	A	63.0	31.0	3.00	4.80	-	2	4891	0.450	8981	0.900	12536	1.350	
UDS63X31X3.5		63.0	31.0	3.50	4.90	-	2	5399	0.350	10359	0.700	15025	1.050	
DN63X35.50X3.50		63.0	35.5	3.50	5.00	-	2	6443	0.375	12293	0.750	17746	1.125	
UDS70X25.5X2		70.0	25.5	2.00	4.50	-	2	2408	0.625	3771	1.250	4437	1.875	
UDS70X30.5X2.5		70.0	30.5	2.50	4.90	-	2	3755	0.600	6297	1.200	8031	1.800	
UDS70X30.5X3		70.0	30.5	3.00	5.10	-	2	4676	0.525	8376	1.050	11426	1.575	
UDS70X35.5X3		70.0	35.5	3.00	5.10	-	2	5028	0.525	9007	1.050	12287	1.575	
UDS70X35.5X3.5		70.0	35.5	3.50	5.30	-	2	6077	0.450	11380	0.900	16180	1.350	
UDS70X35.5X4		70.0	35.5	4.00	5.80	-	2	8757	0.450	16634	0.900	23923	1.350	
UDS70X35.5X3.75		70.0	35.5	4.00	5.80	3.75	2	9167	0.450	17020	0.900	23920	1.350	
UDS70X40.5X4		70.0	40.5	4.00	5.60	-	2	8391	0.400	16099	0.800	23351	1.200	
UDS70X40.5X3.75		70.0	40.5	4.00	5.60	3.75	2	8739	0.400	16430	0.800	23350	1.200	
UDS70X40.5X5		70.0	40.5	5.00	6.20	-	2	11544	0.300	22728	0.600	33672	0.900	

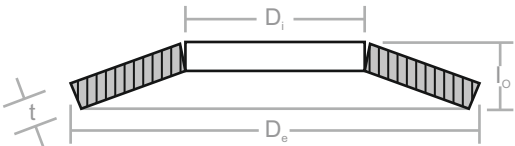
DISC SPRING



Part No.	Series	Dimensions											
		D _e (mm)	D _i (mm)	t (mm)	L ₀ (mm)	t' (mm)	Group	0.25 ho		0.50 ho		0.75 ho	
								F (N)	S (mm)	F (N)	S (mm)	F (N)	S (mm)
UDS70X40.5X4.6	C B A	70.0	40.5	5.00	6.20	4.60	2	11900	0.300	23070	0.600	33672	0.900
UDS71X36X2		71.0	36.0	2.00	4.60	-	2	2861	0.650	4432	1.300	5144	1.950
UDS71X36X2.5		71.0	36.0	2.50	4.50	-	2	2894	0.500	5054	1.000	6725	1.500
UDS71X36X4		71.0	36.0	4.00	5.60	-	2	7379	0.400	14157	0.800	20535	1.200
UDS71X36X3.75		71.0	36.0	4.00	5.60	3.75	2	7685	0.400	14440	0.800	20530	1.200
UDS80X31X2.5		80.0	31.0	2.50	5.30	-	2	3678	0.700	5933	1.400	7239	2.100
UDS80X31X3		80.0	31.0	3.00	5.50	-	2	4531	0.625	7847	1.250	10352	1.875
UDS80X31X4		80.0	31.0	4.00	6.10	-	2	7319	0.525	13677	1.050	19394	1.575
UDS80X31X3.75		80.0	31.0	4.00	6.10	3.75	2	7783	0.525	14050	1.050	19440	1.580
UDS80X36X3		80.0	36.0	3.00	5.70	-	2	5401	0.675	9196	1.350	11919	2.025
UDS80X36X4		80.0	36.0	4.00	6.20	-	2	8163	0.550	15168	1.100	21400	1.650
UDS80X36X3.75		80.0	36.0	4.00	6.20	3.75	2	8626	0.550	15600	1.100	21400	1.650
UDS80X41X2.25	C	80.0	41.0	2.25	5.20	-	2	3698	0.738	5715	1.475	6613	2.213
UDS80X41X3	B	80.0	41.0	3.00	5.30	-	2	4450	0.575	7838	1.150	10518	1.725
UDS80X41X4	A	80.0	41.0	4.00	6.20	-	2	8726	0.550	16213	1.100	22874	1.650
UDS80X41X3.75		80.0	41.0	4.00	6.20	3.75	2	9220	0.550	16670	1.100	22874	1.650
UDS80X41X5		80.0	41.0	5.00	6.70	-	2	11821	0.425	22928	0.850	33559	1.275
UDS80X41X4.7		80.0	41.0	5.00	6.70	4.70	2	12350	0.425	23300	0.850	33682	1.280
UDS90X46X2.5	C	90.0	46.0	2.50	5.70	-	2	4232	0.800	6585	1.600	7684	2.400
UDS90X46X3.5	B	90.0	46.0	3.50	6.00	-	2	5836	0.625	10416	1.250	14161	1.875
UDS90X46X5	A	90.0	46.0	5.00	7.00	-	2	11267	0.500	21617	1.000	31354	1.500
UDS90X46X4.7		90.0	46.0	5.00	7.00	4.70	2	11710	0.500	22040	1.000	31354	1.500
UDS100X41X4		100.0	41.0	4.00	7.20	-	2	8714	0.800	15219	1.600	20251	2.400
UDS100X41X3.75		100.0	41.0	4.00	7.20	3.75	2	9345	0.800	15800	1.600	20251	2.400
UDS100X41X5		100.0	41.0	5.00	7.75	-	2	12345	0.688	22937	1.375	32361	2.063
UDS100X41X4.75		100.0	41.0	5.00	7.75	4.75	2	12940	0.688	23520	1.375	32328	2.060
UDS100X51X2.7	C	100.0	51.0	2.70	6.20	-	2	4779	0.875	7410	1.750	8609	2.625
UDS100X51X3.5	B	100.0	51.0	3.50	6.30	-	2	5624	0.700	9823	1.400	13070	2.100
UDS100X51X4		100.0	51.0	4.00	7.00	-	2	8673	0.750	15341	1.500	20674	2.250
UDS100X51X3.75		100.0	51.0	4.00	7.00	3.75	2	9282	0.750	15910	1.500	20674	2.250
UDS100X51X5		100.0	51.0	5.00	7.80	-	2	13924	0.700	25810	1.400	36339	2.100
UDS100X51X4.75	A	100.0	51.0	5.00	7.80	4.75	2	14550	0.700	26400	1.400	36340	2.100
UDS100X51X6		100.0	51.0	6.00	8.20	-	2	17061	0.550	32937	1.100	48022	1.650
UDS100X51X5.6		100.0	51.0	6.00	8.20	5.60	2	17750	0.550	33590	1.100	48020	1.650
UDS112X57X3	C	112.0	57.0	3.00	6.90	-	2	5834	0.975	9038	1.950	10489	2.925
UDS112X57X4	B	112.0	57.0	4.00	7.20	-	2	7639	0.800	13341	1.600	17752	2.400
UDS112X57X3.75		112.0	57.0	4.00	7.20	3.75	2	8192	0.800	13850	1.600	17752	2.400
UDS112X57X6	A	112.0	57.0	6.00	8.50	-	2	15800	0.625	30215	1.250	43707	1.875
UDS112X57X5.6		112.0	57.0	6.00	8.50	5.60	2	16660	0.625	30910	1.250	43800	1.880
UDS125X41X4		125.0	41.0	4.00	8.20	-	2	8501	1.050	13943	2.100	17346	3.150
UDS125X41X3.75		125.0	41.0	4.00	8.20	3.75	2	9146	1.050	14540	2.100	17350	3.150
UDS125X51X4		125.0	51.0	4.00	8.50	-	2	10096	1.125	16265	2.250	19817	3.375
UDS125X51X3.75		125.0	51.0	4.00	8.50	3.75	2	10890	1.125	16970	2.250	19820	3.380
UDS125X51X5	A	125.0	51.0	5.00	8.90	-	2	13063	0.975	22931	1.950	30669	2.925
UDS125X51X4.7		125.0	51.0	5.00	8.90	4.70	2	14020	0.975	23760	1.950	30700	2.930
UDS125X51X6		125.0	51.0	6.00	9.40	-	2	17027	0.850	31514	1.700	44307	2.550
UDS125X51X5.6		125.0	51.0	6.00	9.40	5.60	2	18090	0.850	32500	1.700	44310	2.550

Part No.	Series	Dimensions												
		D _e (mm)	D _i (mm)	t (mm)	L ₀ (mm)	t' (mm)	Group	0.25 ho		0.50 ho		0.75 ho		
								F (N)	S (mm)	F (N)	S (mm)	F (N)	S (mm)	
UDS125X61X5		125.0	61.0	5.00	9.00	-	2	14615	1.000	25526	2.000	33965	3.000	
UDS125X61X4.7		125.0	61.0	5.00	9.00	4.70	2	15630	1.000	26470	2.000	33965	3.000	
UDS125X61X6		125.0	61.0	6.00	9.60	-	2	19789	0.900	36336	1.800	50722	2.700	
UDS125X61X5.6		125.0	61.0	6.00	9.60	5.60	2	21080	0.900	37540	1.800	50720	2.700	
UDS125X61X8		125.0	61.0	8.00	10.90	-	3	34434	0.725	65305	1.450	93577	2.175	
UDS125X61X7.5		125.0	61.0	8.00	10.90	7.50	3	34434	0.725	65305	1.450	93577	2.175	
UDS125X64X3.5	C	125.0	64.0	3.50	8.00	-	2	8514	1.125	13231	2.250	15416	3.375	
UDS125X64X5	B	125.0	64.0	5.00	8.50	-	2	12238	0.875	21924	1.750	29908	2.625	
UDS125X64X4.7		125.0	64.0	5.00	8.50	4.70	2	13090	0.875	22660	1.750	29940	2.630	
UDS125X64X6		125.0	64.0	6.00	9.60	-	2	20350	0.900	37360	1.800	52150	2.700	
UDS125X64X5.6		125.0	64.0	6.00	9.60	5.60	2	21670	0.900	38600	1.800	52150	2.700	
UDS125X64X7		125.0	64.0	7.00	10.00	-	3	25530	0.750	47610	1.500	67220	2.250	
UDS125X64X6.55		125.0	64.0	7.00	10.00	6.55	3	25530	0.750	47610	1.500	67220	2.250	
UDS125X64X8		A	125.0	64.0	8.00	10.60	-	3	31118	0.650	59520	1.300	85926	1.950
UDS125X64X7.5	A	125.0	64.0	8.00	10.60	7.50	3	31118	0.650	59520	1.300	85926	1.950	
UDS125X71X6		125.0	71.0	6.00	9.30	-	2	19538	0.825	36302	1.650	51304	2.475	
UDS125X71X5.6		125.0	71.0	6.00	9.30	5.60	2	20840	0.830	37410	1.650	51290	2.480	
UDS125X71X8		125.0	71.0	8.00	10.40	-	3	30867	0.600	59149	1.200	85494	1.800	
UDS125X71X7.4		125.0	71.0	8.00	10.40	7.40	3	30867	0.600	59149	1.200	85494	1.800	
UDS125X71X10		125.0	71.0	10.00	11.80	-	3	42963	0.450	84219	0.900	124124	1.350	
UDS125X71X9.2		125.0	71.0	10.00	11.80	9.20	3	42963	0.450	84219	0.900	124124	1.350	
UDS140X72X3.8	C	140.0	72.0	3.80	8.70	-	2	9514	1.225	14773	2.450	17195	3.675	
UDS140X72X5	B	140.0	72.0	5.00	9.00	-	2	12014	1.000	20982	2.000	27920	3.000	
UDS140X72X4.7		140.0	72.0	5.00	9.00	4.70	2	12850	1.000	21760	2.000	27920	3.000	
UDS140X72X8		A	140.0	72.0	8.00	11.20	-	3	31903	0.800	59967	1.600	85251	2.400
UDS140X72X7.5		A	140.0	72.0	8.00	11.20	7.50	3	31903	0.800	59967	1.600	85251	2.400
UDS150X61X5		150.0	61.0	5.00	10.30	-	2	15292	1.325	25021	2.650	31041	3.975	
UDS150X61X4.8		150.0	61.0	5.00	10.30	4.80	2	16080	1.325	25710	2.650	31059	3.980	
UDS150X61X6		150.0	61.0	6.00	10.80	-	2	19560	1.200	34161	2.400	45456	3.600	
UDS150X61X5.8		150.0	61.0	6.00	10.80	5.80	2	20300	1.200	34850	2.400	45456	3.600	
UDS150X71X6		150.0	71.0	6.00	10.80	-	2	20721	1.200	36189	2.400	48155	3.600	
UDS150X71X5.65		150.0	71.0	6.00	10.80	5.65	2	22120	1.200	37490	2.400	48155	3.600	
UDS150X71X8		150.0	71.0	8.00	12.00	-	3	35296	1.000	64684	2.000	89851	3.000	
UDS150X71X7.5		150.0	71.0	8.00	12.00	7.50	3	35296	1.000	64684	2.000	89851	3.000	
UDS150X81X8		150.0	81.0	8.00	11.70	-	3	34518	0.925	63877	1.850	89532	2.775	
UDS150X81X7.5		150.0	81.0	8.00	11.70	7.50	3	34518	0.925	63877	1.850	89532	2.775	
UDS150X81X10		150.0	81.0	10.00	13.00	-	3	50088	0.750	96121	1.500	139128	2.250	
UDS150X81X9.3		150.0	81.0	10.00	13.00	9.30	3	50088	0.750	96121	1.500	139128	2.250	
UDS160X82X4.3	C	160.0	82.0	4.30	9.90	-	2	12162	1.400	18832	2.800	21843	4.200	
UDS160X82X6	B	160.0	82.0	6.00	10.50	-	2	17203	1.125	30431	2.250	41008	3.375	
UDS160X82X5.6		160.0	82.0	6.00	10.50	5.60	2	18570	1.125	31630	2.250	41040	3.380	
UDS160X82X10		A	160.0	82.0	10.00	13.50	-	3	50547	0.875	96216	1.750	138331	2.625
UDS160X82X9.4		A	160.0	82.0	10.00	13.50	9.40	3	50547	0.875	96216	1.750	138331	2.625
UDS180X92X4.8	C	180.0	92.0	4.80	11.00	-	2	14646	1.550	22731	3.100	26442	4.650	
UDS180X92X6	B	180.0	92.0	6.00	1110	-	2	16558	1.275	28552	2.550	37502	3.825	
UDS180X92X5.6		180.0	92.0	6.00	1110	5.60	2	17920	1.275	29770	2.550	37530	3.830	
UDS180X92X10		A	180.0	92.0	10.00	14.00	-	3	46850	1.000	88141	2.000	125417	3.000
UDS180X92X9.4		A	180.0	92.0	10.00	14.00	9.40	3	46850	1.000	88141	2.000	125417	3.000
UDS180X92X13		180.0	92.0	13.00	16.50	-	3	85040	0.880	163400	1.750	238300	2.630	
UDS180X92X12.1		180.0	92.0	13.00	16.50	12.10	3	85040	0.880	163400	1.750	238300	2.630	

DISC SPRING



Part No.	Series	Dimensions											
		D _o (mm)	D _i (mm)	t (mm)	L _o (mm)	t' (mm)	Group	0.25 h _o		0.50 h _o		0.75 h _o	
								F (N)	S (mm)	F (N)	S (mm)	F (N)	S (mm)
UDS200X82X8		200.0	82.0	8.00	14.20	-	3	35029	1.550	60013	3.100	78034	4.650
UDS200X82X7.6		200.0	82.0	8.00	14.20	7.60	3	35029	1.550	60013	3.100	78034	4.650
UDS200X82X10		200.0	82.0	10.00	15.50	-	3	51105	1.375	93357	2.750	129445	4.125
UDS200X82X9.6		200.0	82.0	10.00	15.50	9.60	3	51105	1.375	93357	2.750	129445	4.125
UDS200X82X12		200.0	82.0	12.00	16.60	-	3	66924	1.150	127191	2.300	182737	3.450
UDS200X82X11.5		200.0	82.0	12.00	16.60	11.50	3	66924	1.150	127191	2.300	182737	3.450
UDS200X92X10		200.0	92.0	10.00	15.60	-	3	55136	1.400	100014	2.800	137688	4.200
UDS200X92X9.5		200.0	92.0	10.00	15.60	9.50	3	55136	1.400	100014	2.800	137688	4.200
UDS200X92X12		200.0	92.0	12.00	16.80	-	3	73913	1.200	139548	2.400	199269	3.600
UDS200X92X11.4		200.0	92.0	12.00	16.80	11.40	3	73913	1.200	139548	2.400	199269	3.600
UDS200X92X14		200.0	92.0	14.00	18.10	-	3	95633	1.025	184092	2.050	267227	3.075
UDS200X92X13.1		200.0	92.0	14.00	18.10	13.10	3	95633	1.025	184092	2.050	267227	3.075
UDS200X102X5.5	C	200.0	102.0	5.50	12.50	-	2	19817	1.750	30882	3.500	36111	5.250
UDS200X102X8	B	200.0	102.0	8.00	13.60	-	3	33367	1.400	57955	2.800	76378	4.200
UDS200X102X7.5	B	200.0	102.0	8.00	13.60	7.50	3	33367	1.400	57955	2.800	76378	4.200
UDS200X102X10		200.0	102.0	10.00	15.60	-	3	58757	1.400	106099	2.800	145357	4.200
UDS200X102X9.4		200.0	102.0	10.00	15.60	9.40	3	58757	1.400	106099	2.800	145357	4.200
UDS200X102X12		200.0	102.0	12.00	16.20	-	3	66983	1.050	127401	2.100	183020	3.150
UDS200X102X11.25		200.0	102.0	12.00	16.20	11.25	3	66983	1.050	127401	2.100	183020	3.150
UDS200X102X14		200.0	102.0	14.00	18.20	-	3	103781	1.050	199476	2.100	289181	3.150
UDS200X102X131		200.0	102.0	14.00	18.20	13.10	3	103781	1.050	199476	2.100	289181	3.150
UDS200X112X12		200.0	112.0	12.00	16.20	-	3	72257	1.050	136873	2.100	195830	3.150
UDS200X112X11.1		200.0	112.0	12.00	16.20	1110	3	72257	1.050	136873	2.100	195830	3.150
UDS200X112X14		200.0	112.0	14.00	17.50	-	3	91033	0.875	176156	1.750	256758	2.625
UDS200X112X12.9		200.0	112.0	14.00	17.50	12.90	3	91033	0.875	176156	1.750	256758	2.625
UDS200X112X16		200.0	112.0	16.00	18.80	-	3	105268	0.700	206697	1.400	305100	2.100
UDS200X112X14.8		200.0	112.0	16.00	18.80	14.80	3	105268	0.700	206697	1.400	305100	2.100
UDS225X112X6		225.0	112.0	6.00	13.60	-	2	25820	1.900	39660	3.800	45500	5.700
UDS225X112X6.5		225.0	112.0	6.50	13.60	-	3	23582	1.775	37417	3.550	44580	5.325
UDS225X112X6.2	C	225.0	112.0	6.50	13.60	6.20	3	23582	1.775	37417	3.550	44580	5.325
UDS225X112X8	B	225.0	112.0	8.00	14.50	-	3	32870	1.625	55412	3.250	70749	4.875
UDS225X112X7.5	B	225.0	112.0	8.00	14.50	7.50	3	32870	1.625	55412	3.250	70749	4.875
UDS225X112X12		225.0	112.0	12.00	17.00	-	3	64497	1.250	120738	2.500	171016	3.750
UDS225X112X11.25		225.0	112.0	12.00	17.00	11.25	3	64497	1.250	120738	2.500	171016	3.750
UDS225X112X16		225.0	112.0	16.00	20.50	-	3	128500	1.130	247100	2.250	360100	3.380
UDS225X112X15X20.5		225.0	112.0	16.00	20.50	15.00	3	128500	1.130	247100	2.250	360100	3.380
UDS250X102X10		250.0	102.0	10.00	18.00	-	3	56867	2.000	97282	4.000	126387	6.000
UDS250X102X9.6		250.0	102.0	10.00	18.00	9.60	3	56867	2.000	97282	4.000	126387	6.000
UDS250X102X12		250.0	102.0	12.00	19.00	-	3	73563	1.750	133131	3.500	182962	5.250
UDS250X102X11.5		250.0	102.0	12.00	19.00	11.50	3	73563	1.750	133131	3.500	182962	5.250
UDS250X127X6.5		250.0	127.0	6.50	14.80	-	3	29700	2.080	45420	4.150	51970	6.230
UDS250X127X7		250.0	127.0	7.00	14.80	-	3	26895	1.950	42527	3.900	50466	5.850
UDS250X127X6.7	C	250.0	127.0	7.00	14.80	6.70	3	26895	1.950	42527	3.900	50466	5.850
UDS250X127X10	B	250.0	127.0	10.00	17.00	-	3	51871	1.750	90206	3.500	119053	5.250
UDS250X127X9.4	B	250.0	127.0	10.00	17.00	9.40	3	51871	1.750	90206	3.500	119053	5.250
UDS250X127X12		250.0	127.0	12.00	19.30	-	3	87633	1.825	156021	3.650	210806	5.475
UDS250X127X11.25		250.0	127.0	12.00	19.30	11.25	3	87633	1.825	156021	3.650	210806	5.475
UDS250X127X14		250.0	127.0	14.00	19.60	-	3	93239	1.400	175145	2.800	248828	4.200
UDS250X127X13.1		250.0	127.0	14.00	19.60	13.10	3	93239	1.400	175145	2.800	248828	4.200
UDS250X127X16		250.0	127.0	16.00	21.80	-	3	140941	1.450	267295	2.900	383017	4.350
UDS250X127X15		250.0	127.0	16.00	21.80	15.00	3	140941	1.450	267295	2.900	383017	4.350

DISC SPRING TOLERANCES

DIAMETER TOLERANCES			
D°or D' [mm]	Permissible deviation in mm		
Over 3 to 6	0 /- 0.12	+0.12 / 0	
Over 6 to 10	0 /- 0.15	+0.15 / 0	
Over 10 to 18	0 /- 0.18	+0.18 / 0	
Over 18 to 30	0 /- 0.21	+0.21 / 0	
Over 30 to 50	0 /- 0.25	+0.25 / 0	
Over 50 to 80	0 /- 0.30	+0.30 / 0	
Over 80 to 120	0 /- 0.35	+0.35 / 0	
Over 120 to 180	0 /- 0.40	+0.40 / 0	
Over 180 to 250	0 /- 0.46	+0.46 / 0	
Over 250 to 315	0 /- 0.52	+0.52 / 0	
Over 315 to 400	0 /- 0.57	+0.57 / 0	
Over 400 to 500	0 /- 0.63	+0.63 / 0	

OVERALL HEIGHT TOLERANCES		
	t or t' [mm]	Tolerance for t [mm]
Group 1	< 1.25	+0.10 /- 0.05
Group 2	1.25 to 2.0	+0.15 /- 0.05
	> 2.0 to 3.0	+0.20 /- 0.10
	> 3.0 to 6.0	+0.30 /- 0.15
Group 3	> 6.0 to 16.0	+0.30 /- 0.30
To ensure the specified springs forces. DIN 2093 allows the overall height tolerances to be slightly exceeded.the overall height tolerances to be slightly exceeded.		

THICKNESS TOLERANCES		
	t or t' [mm]	Tolerance for t [mm]
Group 1	0.2 to 0.6	+0.02 /- 0.06
	>0.6 to <1.25	+0.03 /- 0.09
Group 2	1.25 to 3.8	+0.04 /- 0.12
	>3.8 to 6.0	+0.05 /- 0.15
Group 3	>6.0 to 16.0	+0.10 /- 0.10
For Springs in Group 3 the tolerance is applied to the reduced thickness t'. We use the thickness to ensure that springs loads are within tolerance and therefore will in some cases deviate from the above figures.		

LOAD TOLERANCES		
	t or t' [mm]	Tolerance for t [mm]
Group 1	< 1.25	+ 25% /- 7.5%
Group 2	1.25 to 3.0	+ 15% /- 7.5%
	> 3.0 to 6.0	+ 10% /- 5%
Group 3	> 6.0 to 16.0	+ 5% /- 5%
With a single spring the spring force must be checked at the height (to-l) This should be carried out with the spring pressed between two lubricated, hardened, ground and polished plates. Measurements are always taken in loading direction.		

DISC SPRING MATERIAL

Material	Magnetic Permeability	Thermal Conductivity	Field of use	Availability
Carbon Steel C80 / CK75	Very good	Low	C 80 is the most inexpensive spring steel for low stress applications.	Always in stock
Chromium-Vanadium steel 51CrV4	Very good	Low	51CrV4 is the most regularly used disc spring material. temperature range of - 20° C to + 100° C	Always in stock
X10CrNi18-8 stainless steels (AISI 301/1.4310)	Low due to work Hardening	Low	SS301 Disc Spring is used non-waterproof housing and subject to even lightly corrosive substances. temperature range of - 200° C to + 200° C,	Always in stock
X5CrNi18-10 stainless steels (AISI 304/1.4301)	Low due to work Hardening	Low	Disc spring washers is used in highly corrosive environments. temperature range of - 200° C to + 200° C	Always in stock
X5CrNiMo17-12-2 stainless steel (AISI 316 / 1.4401)	Low due to work Hardening	Low	Disc spring Washers is used in highly Corrosive environments temperature range of - 200° C to + 200° C	Always in stock
HEAT RESISTANT STEEL X7CrNi Al17-7 (17-7 PH)	Good	Low	Disc spring Washers in corrosive environments but for high temperatures. temperature range of - 90° C to + 300° C	Always in stock
Inconel X-750 (2.4669)	Zero	Low	Disc Spring Washers used in nuclear, aeronautical, space, very high temperature. temperature range of - 200° C to + 600° C	Always in stock
Inconel X-718 (2.4668)	Zero	Low	Disc Spring Washers used in nuclear, aeronautical, space, very high temperature. temperature range of - 200° C to + 600° C	Always in stock

HEAVY DUTY SAFETY WASHERS (HDS)

DIN6796

Heavy Duty Safety or Load Washers are manufactured as per DIN 6796 and are designed specifically for Heavy Duty Bolted sections.

Conical Spring Washers are spring elements whose role is to counteract the loss of force in screwed or bolted connections due to stress relaxation taking place in the components or to counteract heat expansion. These spring elements are compressed in the assembly.

They are configured in accordance with bolts of the property class 8.8, 10.9 & 12.9. Particularly when used in conjunction with short bolts, their function is to increase the elasticity of the overall assembly. in the case of relaxation of the connection, these elements maintain a creation minimum clamping force.

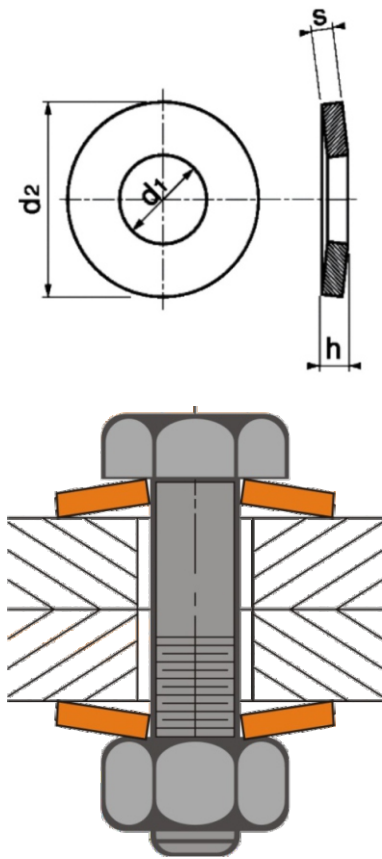
However conical spring washers are not able to prevent parts unscrewing as a result of alternating transverse loads.

It should be noted that conical spring washers are extremely high-stressed components and there-fore only recommended for static application.



STANDARD APPLICATIONS INCLUDE :

- Bus Bars in Transformers
- Automobile & Heavy construction
- Agriculture & Heavy Machineries
- Mining & Turbine constrection



Part No.	Outside Dia (De)	Inside Dia (Di)	Thickness (t)	Overall Height (Max) (io)	Approximate Force to Flat	Bolt Size
HDS52204	5.0	2.2	0.40	0.60	628	2.0
HDS62705	6.0	2.7	0.50	0.72	946	2.5
HDS73206	7.0	3.2	0.60	0.85	1320	3.0
HDS83708	8.0	3.7	0.80	1.06	2410	3.5
HDS9431	9.0	4.3	1.00	1.30	3770	4.0
HDS115312	11.0	5.3	1.20	1.55	5480	5.0
HDS146415	14.0	6.4	1.50	2.00	8590	6.0
HDS1774175	17.0	7.4	1.75	2.30	11300	7.0
HDS18842	18.0	8.4	2.00	2.60	14900	8.0
HDS2310525	23.0	10.5	2.50	3.20	22100	10.0
HDS29133	29.0	13.0	3.00	3.95	34100	12.0
HDS351536	35.0	15.0	3.50	4.65	46000	14.0
HDS39174	39.0	17.0	4.00	5.25	59700	16.0
HDS421945	42.0	19.0	4.50	5.8	74400	18.0
HDS45215	45.0	21.0	5.00	6.4	93200	20.0
HDS492355	49.0	23.0	5.50	7.05	113700	22.0
HDS56256	56.0	25.0	6.00	7.75	131000	24.0
HDS602865	60.0	28.0	6.50	8.35	154000	27.0
HDS70317	70.0	31.0	7.00	9.2	172000	30.0

PLATING :

Self Finish / Zinc Phosphate And Oil, Zinc Flake

MATERIAL :

Spring Steel, 51CrV4, SS301, SS304, SS316L

SERRATED WASHER

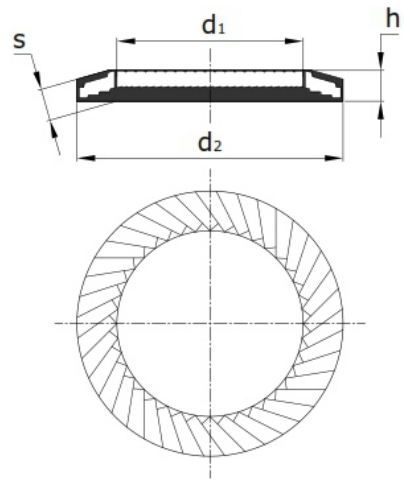
Enhancing Stability and Security: Introducing USPL Serrated Washers

In the realm of fastening solutions, reliability is paramount. Enter our Serrated Washers, meticulously designed to elevate stability and security in every bolted joint application. Crafted with precision and engineered for excellence, these washers are the epitome of quality and performance.

We offer a comprehensive range of Serrated Washers to suit various bolt sizes, diameters, and load requirements. we ensure that you always have the perfect fastening solution at your disposal.

The advantages of USPL Serrated Safety Washers

1. Used for high vibration resistance due to positive rib contact
2. Excellent pre-tensioning
3. No splitting/cracking occurs during tightening
4. The concentric force of the washer eliminates the chances of bending fasteners



Serrated Washer

Dimension table for “L” (Light Series) Safety Washers

Part No.	Size (Nominal) [mm]	d ₁ H14 [mm]	d ₂ H14 [mm]	s [mm]	h max. [mm]	h min. [mm]	for bolts metric [mm]	imperial [mm]
SWL7X4.3X0.5	4.00	4.30	7.00	0.50	1.00	0.59	4.00	5/32"
SWL9X5.3X0.6	5.00	5.30	9.00	0.60	1.10	0.73	5.00	3/16"
SWL10X6.4X0.7	6.00	6.40	10.00	0.70	1.20	0.82	6.00	-
SWL9.5X6.7X0.7	6.35	6.70	9.50	0.70	1.20	0.79	0.00	1/4"
SWL12X7.4X0.7	7.00	7.40	12.00	0.70	1.30	0.89	7.00	-
SWL13X8.4X0.8	8.00	8.40	13.00	0.80	1.40	0.98	8.00	5/16"
SWL16X10.5X1	10.00	10.50	16.00	1.00	1.60	1.21	10.00	3/8"
SWL15.9X11.6X1	11.00	11.60	15.90	1.00	1.60	1.18	0.00	7/16"
SWL18X13X1.1	12.00	13.00	18.00	1.10	1.70	1.31	12.00	-
SWL19X13.7X1.1	12.70	13.70	19.00	1.10	1.80	1.33	0.00	-
SWL22X15X1.2	14.00	15.00	22.00	1.20	2.00	1.52	14.00	9/16"
SWL24X17X1.3	16.00	17.00	24.00	1.30	2.10	1.63	16.00	5/8"
SWL27X19X1.5	18.00	19.00	27.00	1.50	2.30	1.85	18.00	-
SWL30X20X1.5	19.00	20.00	30.00	1.50	2.50	1.98	0.00	3/4"
SWL30X21X1.5	20.00	21.00	30.00	1.50	2.50	1.94	20.00	-
SWL33X23X1.5	22.00	23.00	33.00	1.50	2.70	2.08	22.00	7/8"
SWL36X25.6X1.8	24.00	25.60	36.00	1.80	2.90	2.32	24.00	-
SWL38X27X2	25.40	27.00	38.00	2.00	3.10	2.52	0.00	1"
SWL39X28.6X2	27.00	28.60	39.00	2.00	3.10	2.52	27.00	-
SWL45X31.6X2	30.00	31.60	45.00	2.00	3.60	2.78	30.00	1 1/8"

Dimension table for “H” (Heavy Series) Safety Washers

Part No.	Size (Nominal) [mm]	d ₁ H14 [mm]	d ₂ H14 [mm]	s [mm]	h max. [mm]	h min. [mm]	for bolts metric [mm]	imperial [mm]
SWH9X5.3X1	5.0	5.3	9.0	1.0	1.3	1.07	5.0	3/16"
SWH10X6.4X1	6.0	6.4	10.0	1.0	1.4	1.08	6.0	-
SWH13X8.4X1.2	8.0	8.4	13.0	1.2	1.7	1.32	8.0	-
SWH16X10.5X1.5	10.0	10.5	16.0	1.5	2.0	1.64	10.0	-
SWH18X13X1.5	12.0	13.0	18.0	1.5	2.1	1.65	12.0	-
SWH22X15X1.5	14.0	15.0	22.0	1.5	2.2	1.76	14.0	-
SWH24X17X2	16.0	17.0	24.0	2.0	2.6	2.21	16.0	-
SWH27X19X2	18.0	19.0	27.0	2.0	2.7	2.27	18.0	5/16"
SWH30X21X2	20.0	21.0	30.0	2.0	2.8	2.34	20.0	3/8"
SWH33X23X2	22.0	23.0	33.0	2.0	3.0	2.42	22.0	9/16"
SWH36X25.6X2.5	24.0	25.6	36.0	2.5	3.4	2.87	24.0	5/8"
SWH38X27X2.5	27.0	28.6	39.0	2.5	3.5	2.91	25.4	7/8"
SWH39X28.6X2.5	30.0	31.6	45.0	2.5	3.8	3.12	27.0	1"
SWH45X31.6X2.5	25.4	27.0	38.0	2.5	5.8	5.35	30.0	1 1/8"
SWH54X38X3	36.0	38.0	54.0	3.0	7.5	6.76	36.0	1 3/8"

PLATING :

Self Finish / Zinc Phosphate And Oil, Zinc Flake

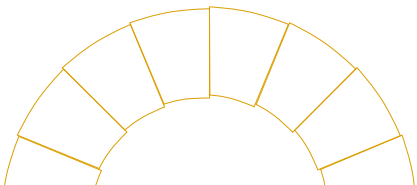
MATERIAL :

Spring Steel, 51CrV4, SS301, SS304, SS316L

SAFE LOCK WASHER

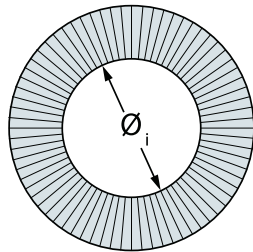
Introducing our SAFE LOCK washer – the ultimate solution for secure fastening in demanding applications. Designed with precision, our SAFE lock washer ensures optimal grip and prevents loosening due to vibrations or heavy loads. Its innovative design provides enhanced stability, making it ideal for industrial machinery, automotive assembly, and structural construction projects. Trust our SAFE LOCK washer for dependable performance and peace of mind in every fastening application.”

At USPL, we take immense pride in crafting Safe Lock washers of unparalleled quality, engineered to uphold the integrity of critical bolted joints in the most demanding applications. Our commitment to excellence permeates every aspect of our manufacturing process, ensuring that each washer delivers unwavering performance and reliability.

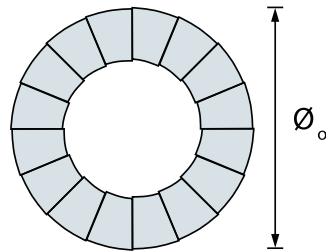


Advantages and Features

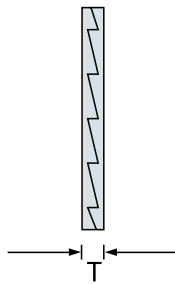
1. Safe Lock washers provide enhanced stability by distributing load evenly across the fastener
2. They effectively resist loosening caused by vibrations
3. The design of Safe Lock washers helps prevent galling and surface damage
4. Safe Lock washers are easy to install and require no special tools or complicated procedures
5. Safe Lock washers can be reused multiple times without compromising performance.
6. Suitable for a wide range of applications, including automotive, aerospace, construction, and industrial machinery



SLW 3–SLW8 $\varnothing_i \pm 0,1$ mm
SLW10–SLW42 $\varnothing_i \pm 0,2$ mm
SLW 45–SLW130 $\varnothing_i +0,5/-0,0$ mm



SLW 3–SLW24 $\varnothing_o \pm 0,2$ mm
SLW 27–SLW42 $\varnothing_o \pm 0,3$ mm
SLW 45–SLW130 $\varnothing_o +0,0/-2,0$ mm



SLW 3–SLW42 $T \pm 0,25$ mm
SLW45–SLW130 $T \pm 0,75$ mm

Through Hardened ≥ 465 HV 1

PLATING:

Self Finish , Zinc Flake

MATERIAL:

Spring Steel, 51CrV4, SS304, SS316L

SAFE LOCK WASHER

Part No.	Bolt size Metric	UNC	Øi [mm]	Øo [mm]	Thickness T [mm]
SLW7.6X4.4X1.8	M4	#8	4.40	7.60	1.80
SLW9X4.4X1.8	M4	#8	4.40	9.00	1.80
SLW9X5.4X1.8	M5	#10	5.40	9.00	1.80
SLW10.8X5.4X1.8	M5	#10	5.40	10.80	1.80
SLW10.8X6.5X1.8	M6	-	6.50	10.80	1.80
SLW13.5X6.5X2.5	M6	-	6.50	13.50	2.50
SLW11.5X7.2X1.8	-	1/4"	7.20	11.50	1.80
SLW13.5X7.2X2.5	-	1/4"	7.20	13.50	2.50
SLW13.5X8.7X2.5	M8	5/16"	8.70	13.50	2.50
SLW16.6X8.7X2.5	M8	5/16"	8.70	16.60	2.50
SLW16.6X10.3X2.53	-	3/8"	10.30	16.60	2.50
SLW21.1X10.4X2.53	-	3/8"	10.30	21.10	2.50
SLW16.6X10.7X2.5	M10	-	10.70	16.60	2.50
SLW21X10.7X2.5	M10	-	10.70	21.00	2.50
SLW18.5X11.4X2.5	M11	7/16"	11.40	18.50	2.50
SLW19.5X13X2.5	M12	-	13.00	19.50	2.50
SLW25.4X13X3.4	M12	-	13.00	25.40	3.40
SLW19.5X13.5X2.51	-	1/2"	13.50	19.50	2.50
SLW25.4X13.5X3.41	-	1/2"	13.50	25.40	3.40
SLW23X15.2X3.4	M14	9/16"	15.20	23.00	3.40
SLW30.7X15.2X3.4	M14	9/16"	15.20	30.70	3.40
SLW25.4X17X3.4	M16	5/8"	17.00	25.40	3.40
SLW30.7X17X3.4	M16	5/8"	17.00	30.70	3.40
SLW29X19.5X3.4	M18	-	19.50	29.00	3.40
SLW34.5X19.5X3.4	M18	-	19.50	34.50	3.40
SLW30.7X20X3.4X3	-	3/4"	20.00	30.70	3.40
SLW39X20X3.4X3	-	3/4"	20.00	39.00	3.40
SLW30.7X21.4X3.4	M20	-	21.40	30.70	3.40
SLW39X21.4X3.4	M20	-	21.40	39.00	3.40
SLW34.5X23.4X3.4	M22	7/8"	23.40	34.50	3.40
SLW42X23.4X4.6	M22	7/8"	23.40	42.00	4.60
SLW39X25.3X3.4	M24	-	25.30	39.00	3.40
SLW48.5X25.3X4.6	M24	-	25.30	48.50	4.60
SLW39X27.9X3.4X1	-	1"	27.90	39.00	3.40
SLW48.5X27.9X4.6X1	-	1"	27.90	48.50	4.60
SLW42X28.4X5.8	M27	-	28.40	42.00	5.80
SLW48.5X28.4X5.8	M27	-	28.40	48.50	5.80
SLW47X31.4X5.8	M30	1.1/8"	31.40	47.00	5.80
SLW58.5X31.5X6.6	M30	1.1/8"	31.40	58.50	6.60
SLW48.5X34.4X5.8	M33	1.1/4"	34.40	48.50	5.80
SLW58.5X34.4X6.6	M33	1.1/4"	34.40	58.50	6.60
SLW55X37.4X6.6	M36	1.3/8"	37.40	55.00	6.60
SLW63X37.3X6.6	M36	1.3/8"	37.40	63.00	6.60
SLW58.5X40.4X6.6	M39	1.1/2"	40.40	58.50	6.60
SLW63X43.2X6.6	M42	-	43.20	63.00	6.60
SLW70X46.2X7	M45	1.3/4"	46.20	70.00	7.00
SLW75X49.6X7	M48	-	49.60	75.00	7.00
SLW80X53.6X7	M52	2"	53.60	80.00	7.00
SLW85X59.1X7	M56	2.1/4"	59.10	85.00	7.00
SLW90X63.1X7	M60	-	63.10	90.00	7.00
SLW95X67.1X7	M64	2.1/2"	67.10	95.00	7.00
SLW100X71.1X9.5	M68	-	71.10	100.00	9.50
SLW105X75.1X9.5	M72	-	75.10	105.00	9.50
SLW110X79X9.4	M76	3"	79.10	110.00	9.40
SLW115X83.1X9.4	M80	-	83.10	115.00	9.40
SLW120X88.1X9.4	M85	-	88.10	120.00	9.40
SLW130X92.5X9.4	M90	-	92.40	130.00	9.40
SLW135X97.3X9.4	M95	-	97.40	135.00	9.40
SLW145X103.4X9.4	M100	-	103.40	145.00	9.40

BALL BEARING DISC SPRING

Slotted & Plain

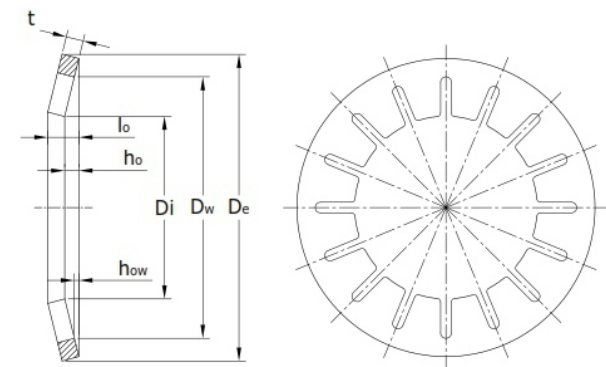
The Ball bearing disc springs assist in maintaining positioning accuracy of the bearing with no end play and also minimize vibration and shaft deflections. Correct preloading will also increase bearing rigidity and negate excessive running noise.

Ball bearing disc springs can also be useful in other applications. The relatively low forces of the ball bearing disc springs means they could act as light duty linkages or mechanisms.



Advantages of Ball Bearing Disc Springs (Preloading Washers):

- 1. Significant increase or decrease in applied force even with small variation in deflection.
- 2. Backlash compensation & regressive curves help reduce preload variations changes.
- 3. Very low force characteristics with very large deflection range.
- 4. Multiplication of force by stacking of two or more in parallel.
- 5. Elimination of noise and play in Ball Bearings.
- 6. Round shape ensures equal distribution of load around the bearing.



Slotted Disc Springs have relatively low forces and are used with small size ball bearings. Disc Spring with slots have a strong digressive characteristic which helps in constant spring force over a large deflection range. We are able to achieve flatness through our special heat treatment process and full contact area helps in uniform preload

PLATING:
Self Finish / Zinc Phosphate And Oil

MATERIAL:
Spring Steel, 51CrV4



BALL BEARING DISC SPRING

Slotted & Plain

Part No.	Ball Bearing Type			Dimension			l _o [mm]	F (0.50 h _o)		F (0.75 h _o)	
				D _s [*] [mm]	D _s [*] [mm]	t [mm]		S [mm]	F [N]	S [mm]	F [N]
BBS9.8X6.2X0.15	-	623	-	9.8	6.2	0.15	0.60	0.23	9	0.35	13
BBP9.8X6.2X0.2	-	623	-	9.8	6.2	0.20	0.40	0.10	19	0.15	24
BBS12.8X7.2X0.2	-	624	-	12.8	7.2	0.20	0.65	0.23	16	0.35	18
BBP12.8X7.2X0.25	-	624	-	12.8	7.2	0.25	0.50	0.12	24	0.19	29
BBS15.8X8.2X0.25	-	625	634	15.8	8.2	0.25	0.75	0.25	17	0.40	20
BBP15.8X8.2X0.25	-	625	634	15.8	8.2	0.25	0.55	0.15	20	0.22	23
BBS18.8X9.2X0.25	-	626	635	18.8	9.2	0.25	1.00	0.38	17	0.55	20
BBP18.8X9.2X0.3	-	626	635	18.8	9.2	0.30	0.65	0.17	26	0.26	31
BBS18.8X10.2X0.25	-	607	-	18.8	10.2	0.25	1.05	0.40	19	0.60	24
BBP18.8X10.2X0.35	-	607	-	18.8	10.2	0.35	0.70	0.17	40	0.26	51
BBS21.8X12.3X0.25	-	608	627	21.8	12.3	0.25	1.25	0.50	19	0.75	24
BBP21.8X12.3X0.35	-	608	627	21.8	12.3	0.35	0.75	0.20	38	0.30	46
BBS23.7X14.3X0.3	-	609	-	23.7	14.3	0.30	1.30	0.50	21	0.75	25
BBP23.7X14.3X0.4	-	609	-	23.7	14.3	0.40	0.90	0.25	69	0.37	80
BBS25.7X14.3X0.3	6000	-	629	25.7	14.3	0.30	1.40	0.55	24	0.80	28
BBP25.7X14.3X0.4	6000	-	629	25.7	14.3	0.40	0.90	0.25	54	0.37	64
BBS27.7X17.3X0.35	6001	-	-	27.7	17.3	0.35	1.45	0.55	25	0.80	31
BBP27.7X17.3X0.4	6001	-	-	27.7	17.3	0.40	1.00	0.30	73	0.45	80
BBS29.7S17.3X0.35	-	6200	-	29.7	17.3	0.35	1.55	0.60	26	0.90	32
BBP29.7X17.3X0.4	-	6200	-	29.7	17.3	0.40	1.10	0.35	80	0.52	82
BBS31.7X20.4X0.35	6002	6201	-	31.7	20.4	0.35	1.55	0.60	27	0.90	33
BBP31.7X20.4X0.4	6002	6201	-	31.7	20.4	0.40	1.10	0.35	79	0.52	81
BBS34.6X20.4X0.4	-	-	6300	34.6	20.4	0.40	1.65	0.65	27	1.00	32
BBP34.6X20.4X0.4	-	-	6300	34.6	20.4	0.40	1.10	0.35	60	0.52	61
BBS34.6X22.4X0.35	6003	6202	-	34.6	22.4	0.35	1.55	0.60	27	0.90	32
BBP34.6X22.4X0.5	6003	6202	-	34.6	22.4	0.50	1.20	0.35	106	0.52	119
BBS36.6X20.4X0.4	-	-	6301	36.6	20.4	0.40	1.90	0.75	31	1.10	35
BBP36.6X20.4X0.5	-	-	6301	36.6	20.4	0.50	1.30	0.40	103	0.60	111
BBS39.6X25.5X0.4	-	6203	-	39.6	25.5	0.40	1.90	0.75	33	1.10	37
BBP39.6X25.5X0.5	-	6203	-	39.6	25.5	0.50	1.30	0.40	103	0.60	111
BBS41.6X25.5X0.45	6004	-	6302	41.6	25.5	0.45	2.05	0.80	34	1.20	39
BBP41.6X25.5X0.5	6004	-	6302	41.6	25.5	0.50	1.40	0.45	113	0.67	114
BBS46.5X30.5X0.45	6005	6204	6303	46.5	30.5	0.45	2.05	0.80	39	1.20	44
BBP46.5X30.5X0.6	6005	6205	6303	46.5	30.5	0.60	1.50	0.45	140	0.67	155
BBS51.5X35.5X0.45	-	6205	6304	51.5	35.5	0.45	2.10	0.85	42	1.25	47
BBP51.5X35.5X0.6	-	6205	6304	51.5	35.5	0.60	1.50	0.45	124	0.67	135
BBS54.5X40.5X0.45	6006	-	-	54.5	40.5	0.45	2.15	0.85	48	1.30	53
BBP54.5X40.5X0.6	6006	-	-	54.5	40.5	0.60	1.50	0.45	127	0.67	140
BBS61.5X40.5X0.55	6007	6206	6305	61.5	40.5	0.55	2.55	1.00	49	1.50	54
BBP61.5X40.5X0.7	6007	6206	6305	61.5	40.5	0.70	1.80	0.55	164	0.82	186
BBS67.5X50.5X0.55	6008	-	-	67.5	50.5	0.50	2.60	1.05	76	1.60	78
BBP67.5X50.5X0.7	6008	-	-	67.5	50.5	0.70	1.70	0.50	143	0.75	160
BBS71.5X45.5X0.6	-	-	6306	71.5	45.5	0.60	2.90	1.15	71	1.70	74
BBP71.5X45.5X0.7	-	-	6306	71.5	45.5	0.70	2.10	0.70	190	1.05	185
BBS71.5X50.5X0.6	-	6207	-	71.5	50.5	0.60	2.90	1.15	127	1.70	127
BBP71.5X50.5X0.7	-	6207	-	71.5	50.5	0.70	2.10	0.70	223	1.05	217
BBS74.5X55.5X0.6	6009	-	-	74.5	55.5	0.60	2.90	1.15	88	1.70	91
BBP74.5X55.5X0.8	6009	-	-	74.5	55.5	0.80	1.90	0.55	186	0.82	212
BBS79.5X50.5X0.7	-	-	6307	79.5	50.5	0.70	3.10	1.20	78	1.80	83

BALL BEARING DISC SPRING - Slotted & Plain.

Part No.	Ball Bearing Type			Dimension				F (0.50 h ₀)		F (0.75 h ₀)	
				D ₁ [mm]	D ₂ [mm]	t [mm]	I ₀ [mm]	S [mm]	F [N]	S [mm]	F [N]
BBP79.5X50.5X0.8	-	-	6307	79.5	50.5	0.80	2.30	0.75	228	1.12	228
BBS79.5X55.5X0.7	6010	6208	-	79.5	55.5	0.70	2.90	1.10	127	1.65	127
BBP79.5X55.5X0.8	6010	6208	-	79.5	55.5	0.80	2.30	0.75	264	1.12	264
BBS84.5X60.5X0.75	-	6209	-	84.5	60.5	0.75	3.15	1.20	66	1.80	78
BBP84.5X60.5X0.9	-	6209	-	84.5	60.5	0.90	2.50	0.80	352	1.20	357
BBS89.5X60.5X0.8	-	-	6308	89.5	60.5	0.80	3.30	1.25	90	1.90	104
BBP89.5X60.5X0.9	-	-	6308	89.5	60.5	0.90	2.50	0.80	284	1.20	288
BBS89.5X65.5X0.8	6011	6210	-	89.5	65.5	0.80	3.40	1.30	180	1.95	189
BBP89.5X65.5X0.9	6011	6210	-	89.5	65.5	0.90	2.50	0.80	330	1.20	333
BBS94.5X75.5X0.8	6012	-	-	94.5	75.5	0.80	3.45	1.35	191	2.00	206
BBP94.5X75.5X1	6012	-	-	94.5	75.5	1.00	2.20	0.60	272	0.90	325
BBP99X65.5X1	-	-	6309	99.0	65.5	1.00	2.60	0.80	274	1.20	293
BBP99X70.5X1	6013	6211	-	99.0	70.5	1.00	2.60	0.80	312	1.20	333
BBP109X70.5X1.25	-	-	6310	109.0	70.5	1.25	2.70	0.73	294	1.09	356
BBP109X75.5X1.25	6014	6212	-	109.0	75.5	1.25	2.70	0.73	327	1.09	394
BBP114X90.5X1.25	6015	-	-	114.0	90.5	1.25	2.45	0.60	311	0.90	396
BBP119X75.5X1.25	-	-	6311	119.0	75.5	1.25	2.80	0.78	270	1.16	319
BBP119X85.5X1.25	-	6213	-	119.0	85.5	1.25	2.80	0.78	331	1.16	391
BBP124X90.5X1.25	6016	6214	-	124.0	90.5	1.25	3.00	0.88	392	1.31	441
BBP129X85.5X1.25	-	-	6312	129.0	85.5	1.25	3.20	0.98	375	1.46	402
BBP129X95.5X1.25	6017	6215	-	129.0	95.5	1.25	3.20	0.98	462	1.46	500
BBP139X90.5X1.25	-	-	6313	139.0	90.5	1.25	3.25	1.00	329	1.50	353
BBP139X101X1.2	6018	6216	-	139.0	101.0	1.25	3.25	1.00	398	1.50	427
BBP149X95.5X1.5	-	-	6314	149.0	95.5	1.50	3.20	0.85	312	1.28	380
BBP149X106X1.5	6020	6217	-	149.0	106.0	1.50	3.20	0.85	368	1.28	448
BBP159X101X1.5	-	-	6315	159.0	101.0	1.50	3.50	1.00	356	1.50	409
BBP159X111X1.5	6021	6218	-	159.0	111.0	1.50	3.50	1.00	415	1.50	477
BBP169X111X1.5	-	-	6316	169.0	111.0	1.50	3.80	1.15	432	1.73	472
BBP169X121X1.5	6022	6219	-	169.0	121.0	1.50	3.80	1.15	497	1.73	542
BBP179X121X2	-	-	6317	179.0	121.0	2.00	4.20	1.10	702	1.65	861
BBP179X126X2	6024	6220	-	179.0	126.0	2.00	4.20	1.10	761	1.65	934
BBP189X121X2	-	-	6318	189.0	121.0	2.00	4.30	1.15	628	1.73	760
BBP189X131X2	-	6221	-	189.0	131.0	2.00	4.30	1.15	702	1.73	849
BBP198X131X2	-	-	6319	198.0	131.0	2.00	4.50	1.25	691	1.88	813
BBP198X141X2	6026	6222	-	198.0	141.0	2.00	4.50	1.25	779	1.88	917
BBP213X151X2.25	-	6224	6320	213.0	151.0	2.25	4.50	1.12	746	1.69	941
BBP223X161X2.25	6030	-	6321	223.0	161.0	2.25	4.60	1.17	747	1.76	933
BBP228X161X2.25	-	6226	-	228.0	161.0	2.25	4.95	1.35	864	2.02	1030
BBP238X161X2.25	6032	-	6322	238.0	161.0	2.25	5.25	1.50	886	2.25	1020
BBP248X171X2.5	-	6228	-	248.0	171.0	2.50	5.00	1.25	795	1.88	1000
BBP258X171X2.5	6034	-	6324	258.0	171.0	2.50	5.50	1.50	928	2.25	1108
BBP268X181X2.5	-	6230	-	268.0	181.0	2.50	5.70	1.60	990	2.40	1160
BBP278X181X2.5	6036	-	6326	278.0	181.0	2.50	6.00	1.75	1020	2.63	1160
BBP288X191X2.75	6038	6232	-	288.0	191.0	2.75	5.75	1.50	931	2.25	1150
BBP298X191X2.75	-	-	6328	298.0	191.0	2.75	6.35	1.80	1130	2.70	1310
BBP308X202X3	6040	6234	-	308.0	202.0	3.00	6.10	1.55	1050	2.33	1300
BBP318X212X3	-	6236	6330	318.0	212.0	3.00	6.20	1.60	1060	2.40	1300
BBP338X232X3	6044	6238	6332	338.0	232.0	3.00	6.60	1.80	1180	2.70	1410
BBP358X242X3	6048	6240	6334	358.0	242.0	3.00	7.00	2.10	1350	3.15	1530

OTHER PRODUCTS.

Coil Springs



At Uspl We Manufacture Compression Spring, Tension Spring, Conical Spring , Actuator Spring, Spring Assembly As Per Customer Requirement.

Range: Wire diameter 0.4mm to 50mm

Material:
High Quality Spring Steel (51CrV4), Spring steel Grade2, Grade3
Stainless steel 304,316,17-7ph,17-4ph,Inconal X-750 & Inconal X-718

Wave Washer



USPL able to deliver wave springs according to drawings,and to develop wave springs according to customer requirements.

USPL manufactures wave springs with the dimension range of:

- Thickness: 0.15 – 5.00 mm
- Outer diameter: 5.00 – 250.00 mm
- Inner diameter: 2.00 – 240.00 mm

Fine Blank Components



At USPL we produce fine blank component as per customer requirement with variety of material selection as per need.

Type Range & Material As per Customer Need

Deep Drawing Parts



On our stamping presses we produce cylindrical drawing parts, housings, precision deep drawing parts and much more. We also benefit from our experience in this field of stamping and metal forming technology and can rely on a comprehensive range of tools. For individual designs the working steps of punching, bending and deep drawing are combined with high precision follow-on composite tools.

APPLICATIONS

Wind Mill
Power Station
Construction
Valves
Spring-Actuated Brakes
Tool Clamping Components
Backlash Compensation
Energy Stores for Safety Systems

Overload Couplings
Slip Clutches
Piston Return Springs
Cableway Grip
Bolted Assemblies
Ball Bearing
Electrical
Flange Application

USER PROFILES



Automobile Industries



Cement Plants



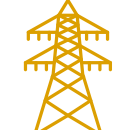
Chemical Plants



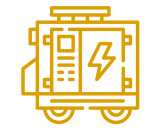
Defence Applications



Earth Moving Equipment



Electrical Industry



Generator Industry



Heating Furnaces



Machine Tools Industries



Press Tools Industries



Rectifiers



Railway



Space Research Center



Steel Making Industries



Textile Industries

QUALITY EXPERIENCE

QUALITY AT ITS FINEST, EXPERIENCE AT ITS BEST

At USPL we pride ourselves on delivering not just products, but quality experiences that transcend expectations. With a rich heritage rooted in precision engineering and a relentless pursuit of perfection, we have earned a reputation as a trusted leader in the manufacturing of our product range. Here's how our commitment to quality manifests in every interaction with our esteemed customers.

At USPL we believe in going above and beyond for our customers. From the moment you engage with our team, you'll experience unparalleled professionalism, attention to detail, and a genuine commitment to your satisfaction. Whether you're seeking technical advice, exploring custom solutions, or simply placing an order, our knowledgeable staff members are here to guide you every step of the way. We understand that your success is our success, and we spare no effort in ensuring that you receive nothing less than the best.

In the fast-paced world of manufacturing, downtime is not an option. That's why discerning professionals across industries trust USPL for their critical fastening needs. Our products are engineered for reliability, durability, and performance in the most demanding environments. Whether you're securing heavy machinery, critical infrastructure, or precision instruments, you can count on our products to deliver steadfast stability and peace of mind.

100% TESTING

CERTIFICATES

