



DURASPRING Spiral Springs

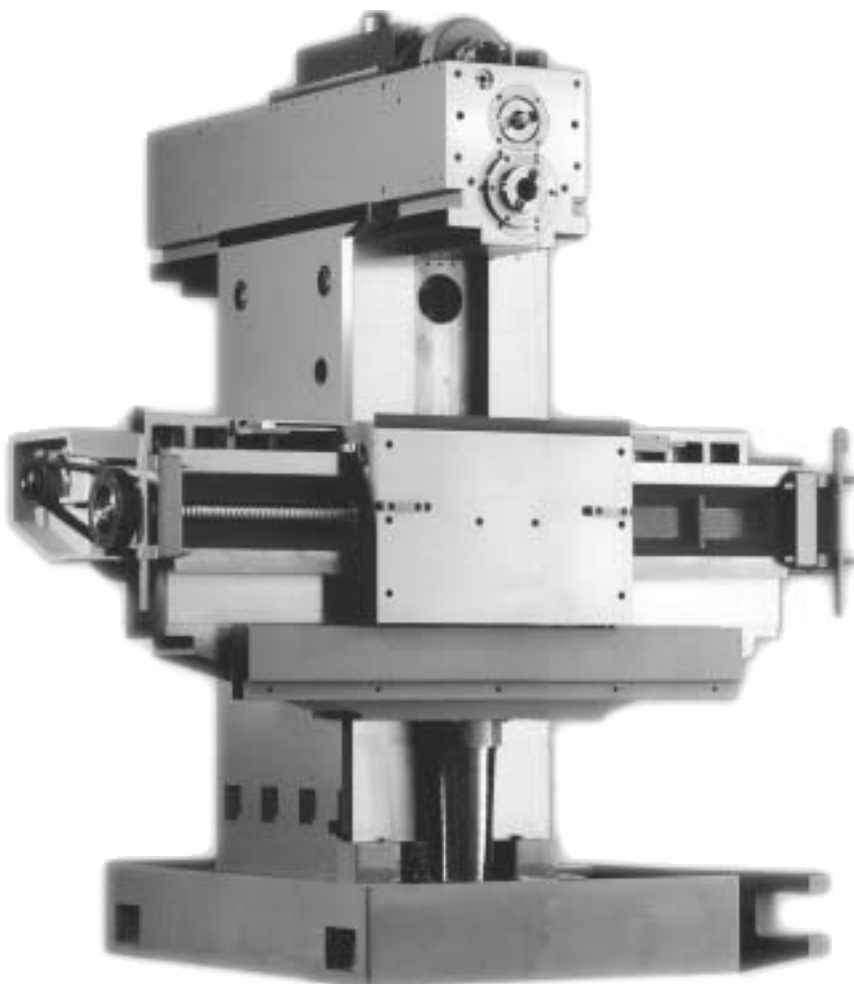
DURASPRING – the next generation of high performance spiral springs

Spiral springs still play an important role among the varied forms of spindle covers. DURASPRING spiral springs are produced on special machines. The shaping of the strip steel in different thicknesses is influenced by pressure forming so that the spiral form results. The machines are HEMA's own developments, adapted especially to the requirements of the customers.

Spiral springs from HEMA have occupied a strong position for spindle protective covers in the market for two decades. Indestructible, precise and in a great variety of dimensions, they have attained their market reputation.

Advantages of DURASPRING:

- first-class spring steel
- ISO 9001-based maintenance, inspection and control system
- first-class safety labeling
- anti-corrosive packaging
- retrofit possible



- opposite and inline installation of multiple springs possible
- NEW: special oil for enhanced life and extended product guarantee

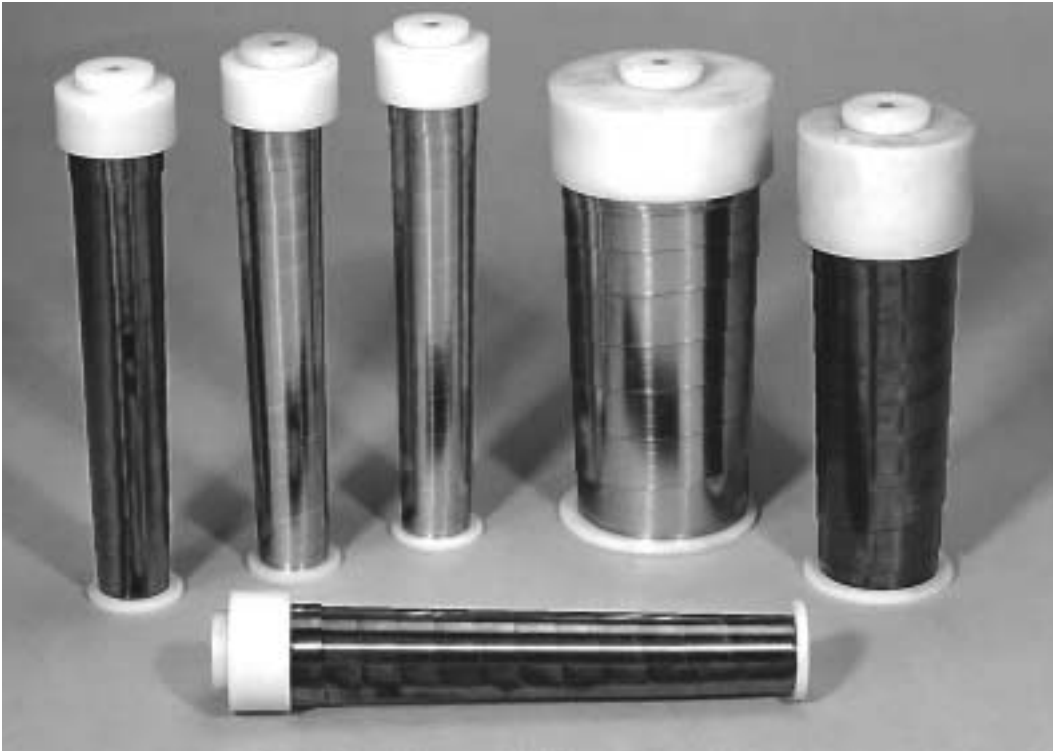
The new standard range now comprises almost 500 types of spring in dimensions from 15 mm up to 160 mm internal diameter. The extension length is up to 4,500 mm for the vertical types. The standard type for blue steel is DURASPRING **blue** and for stainless steel types DURASPRING **silver**.

Technical data

We use spring band steel of extreme hardness (55-58 Rockwell) with rounded off edges and a strength of up to 1800 N/mm² for our standard spiral springs. We use band steel in thicknesses from 0.2 to 1.0 mm, and our engineers select the right material for the application for each type of spiral spring. Since this is documented within our quality system, reproducibility is also guaranteed when reordering. If the spiral springs are exposed regularly to coolants with a high proportion of water, then stainless band steel should be used as basis material. Stainless spiral springs have lower spring forces and therefore cannot be manufactured in all sizes. The optimum operating conditions for DURASPRING are in applications with oil. Bellows should be used alternatively for fine particles and dust. DURASPRING is designed as standard for speeds up to 40 metres/minute. Special solutions with almost twice the speed are achieved in individual robotics applications.

Maintenance/Cleaning

Decisive factors in the assessment of the quality of spiral springs are their flexible travel and the small distance between the overlapping turns. The delivery quality of each DURASPRING is assured with the aid of testing devices. Each spring from a certain size is tested mechanically for its running properties. Maintenance of the springs is necessary.



Cleaning the springs according to the degree of contamination and then applying a light oil film is recommended. Use for that purpose the original DURASPRING LONGLIFE special oil.

Installation/operating position

HEMA differentiates exactly according to the installation/operating position in the production of DURASPRING. The same denominations of types of spiral spring include different extension lengths according to installation position. The values are shown in the data matrix.

Horizontal installation

Springs used horizontally are adjusted for especially uniform running, so that the turn overlap becomes larger; "sagging" is reduced in particular for long extension lengths and transverse stability is significantly improved. In the case of horizontal installation of the springs, placing the largest diameter adjacent to the chip production is recommended.

Vertical installation

As a matter of principle, vertically installed DURASPRING have larger extension lengths than hori-

zontal types. The critical design factor for this type is the starting force ratio, since the springs also work against gravity. Vertical types therefore have a high starting force, guaranteeing that the DURASPRING draws out quickly when starting/extending the machine.

A few recommendations which should be taken into account for smooth operation also result for assembly and installation. In the case of vertical installation, the end with the larger diameter should be installed at the upper position.

Flanges (optional)

You require simple centering flanges at both ends of the DURASPRING for installation (see order sheet). However, these flanges must allow any rotary movements of the spring that may occur; in order to prevent damage to the springs. The springs must be guided so that they can move freely. It is not permitted to screw and/or rivet them. When using flanges, the spindle diameter SD is reduced by 6 mm compared to the values given on the following pages.

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Abbreviations:

- SD Maximum inside diameter of the part to be covered
 *(value is reduced by 6 mm when using flanges)
- ID Inside diameter of spiral spring (± 1 mm)
- AD Outside diameter of spiral spring (± 2 mm)
- Lh Maximum extension length for horizontal installation position
- Lv Maximum extension length for vertical installation position
- BB Band width (corresponds to Lmin)

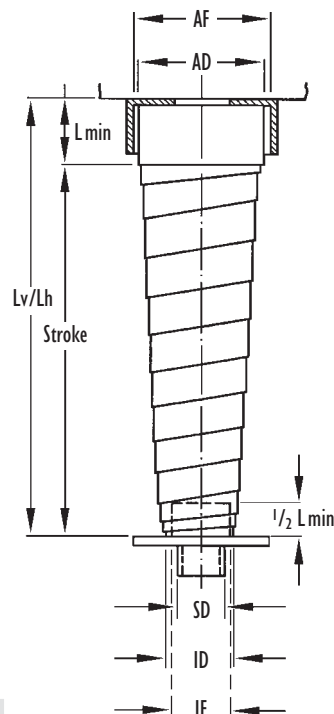
Centering flange (deliverable on demand):

AF Interior diameter of the larger centering flange ($AD + 4$ mm)

IF Outer diameter of the smaller centering flange ($ID - 2$ mm)

Option: through-boring of the flange ($SD + 2$ mm)

na not available all data in mm



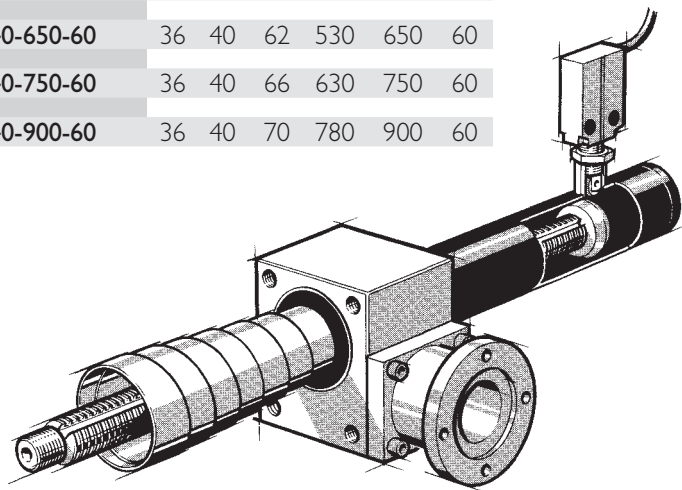
These dimensions are also available as DURASPRING silver (stainless steel).

DURASPRING	SD* ID	AD	Lh	Lv	BB	DURASPRING	SD* ID	AD	Lh	Lv	BB
15-70-20	11 15	22	na	70	20	25-300-30	21 25	42	240	300	30
15-100-20	11 15	22	60	100	20	25-350-30	21 25	45	290	350	30
15-120-20	11 15	22	90	120	20	25-400-30	21 25	48	340	400	30
15-150-20	11 15	28	110	150	20	25-450-30	21 25	49	390	450	30
15-200-20	11 15	31	160	200	20	25-450-40	21 25	48	370	450	40
15-300-20	11 15	32	260	300	20	25-500-40	21 25	49	420	500	40
20-100-20	16 20	30	60	100	20	25-450-50	21 25	41	390	450	50
20-150-20	16 20	33	110	150	20	25-550-50	21 25	43	490	550	50
20-200-20	16 20	36	160	200	20	25-600-50	21 25	44	540	600	50
20-250-20	16 20	39	210	250	20	25-650-50	21 25	45	590	650	50
20-300-20	16 20	41	260	300	20	25-750-50	21 25	47	690	750	50
20-250-30	16 20	36	210	250	30	25-900-50	21 25	57	840	900	50
20-300-30	16 20	39	260	300	30	30-150-30	26 30	39	90	150	30
20-350-30	16 20	41	310	350	30	30-200-30	26 30	42	140	200	30
20-400-30	16 20	43	360	400	30	30-250-30	26 30	44	190	250	30
20-400-40	16 20	35	360	400	40	30-300-30	26 30	46	240	300	30
20-450-40	16 20	41	410	450	40	30-350-30	26 30	49	290	350	30
20-500-40	16 20	48	460	500	40	30-400-30	26 30	50	340	400	30
25-100-20	21 25	36	60	100	20	30-450-30	26 30	53	390	450	30
25-150-20	21 25	38	110	150	20						
25-200-20	21 25	40	160	200	20						
25-250-20	21 25	44	210	250	20						
25-300-20	21 25	46	260	300	20						

DURASPRING	SD*	ID	AD	Lh	Lv	BB
30-450-40	26	30	53	370	450	40
30-500-40	26	30	55	440	500	40
30-550-40	26	30	58	490	550	40
30-600-40	26	30	58	540	600	40
30-650-40	26	30	60	590	650	40
30-700-40	26	30	64	640	700	40
30-150-50	26	30	40	90	150	50
30-250-50	26	30	42	190	250	50
30-350-50	26	30	45	290	350	50
30-450-50	26	30	46	390	450	50
30-550-50	26	30	48	490	550	50
30-650-50	26	30	55	590	650	50
30-750-50	26	30	58	690	750	50
30-650-60	26	30	58	590	650	60
30-750-60	26	30	55	690	750	60
30-900-60	26	30	58	840	900	60
30-1000-60	26	30	60	940	1000	60
35-100-20	31	35	45	60	100	20
35-100-30	31	35	44	60	100	30
35-150-30	31	35	48	90	150	30
35-200-30	31	35	50	140	200	30
35-250-30	31	35	52	190	250	30
35-300-30	31	35	55	240	300	30
35-350-30	31	35	61	290	350	30
35-400-30	31	35	63	340	400	30
35-300-40	31	35	48	240	300	40
35-350-40	31	35	50	290	350	40
35-400-40	31	35	54	340	400	40
35-450-40	31	35	58	390	450	40
35-500-40	31	35	60	440	500	40
35-550-40	31	35	62	490	550	40
35-350-50	31	35	51	290	350	50
35-400-50	31	35	52	340	400	50
35-450-50	31	35	54	390	450	50
35-500-50	31	35	55	440	500	50
35-650-50	31	35	60	590	650	50
35-750-50	31	35	64	690	750	50

DURASPRING	SD*	ID	AD	Lh	Lv	BB
35-850-50	31	35	65	790	850	50
35-450-60	31	35	53	390	450	60
35-550-60	31	35	56	490	550	60
35-650-60	31	35	59	590	650	60
35-750-60	31	35	60	690	750	60
35-850-60	31	35	60	790	850	60
35-550-75	31	35	54	490	550	75
35-650-75	31	35	55	590	650	75
35-750-75	31	35	57	690	750	75
35-850-75	31	35	59	790	850	75
40-150-30	36	40	51	90	150	30
40-250-30	36	40	56	190	250	30
40-350-30	36	40	60	290	350	30
40-450-30	36	40	64	390	450	30
40-350-40	36	40	61	290	350	40
40-400-40	36	40	63	340	400	40
40-450-40	36	40	64	390	450	40
40-500-40	36	40	65	440	500	40
40-550-40	36	40	68	490	550	40
40-350-50	36	40	56	250	350	50
40-450-50	36	40	59	350	450	50
40-550-50	36	40	61	450	550	50
40-650-50	36	40	65	550	650	50
40-750-50	36	40	69	650	750	50
40-850-50	36	40	71	750	850	50
40-350-60	36	40	55	230	350	60
40-550-60	36	40	59	430	550	60
40-650-60	36	40	62	530	650	60
40-750-60	36	40	66	630	750	60
40-900-60	36	40	70	780	900	60

Standard types and dimensions



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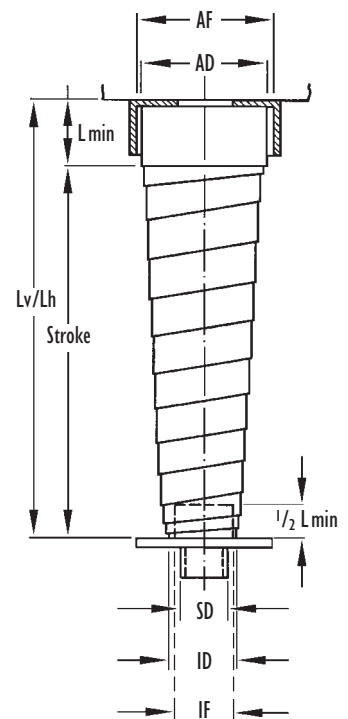
DURASPRING	SD* ID	AD	Lh	Lv	BB
40-650-75	36 40	63	500	650	75
40-750-75	36 40	66	600	750	75
40-900-75	36 40	71	750	900	75
40-1100-75	36 40	78	950	1100	75
40-1300-75	36 40	84	1150	1300	75
40-1500-75	36 40	90	na	1500	75
40-1000-100	36 40	68	800	1000	100
40-1200-100	36 40	71	1000	1200	100
40-1300-100	36 40	75	1100	1300	100
40-1400-100	36 40	76	1200	1400	100
40-1500-100	36 40	78	1300	1500	100
40-1600-100	36 40	81	1400	1600	100
40-1800-100	36 40	82	1600	1800	100
40-1800-120	36 40	82	1560	1800	120
40-2000-120	36 40	86	1760	2000	120
40-2200-120	36 40	90	na	2200	120
45-150-30	41 45	56	90	150	30
45-250-30	41 45	61	190	250	30
45-350-30	41 45	65	290	350	30
45-400-30	41 45	66	340	400	30
45-350-40	41 45	65	290	350	40
45-400-40	41 45	68	340	400	40
45-450-40	41 45	69	390	450	40
45-450-50	41 45	66	350	450	50
45-550-50	41 45	68	450	550	50
45-650-50	41 45	75	550	650	50
45-350-60	41 45	63	230	350	60
45-450-60	41 45	65	330	450	60
45-550-60	41 45	65	430	550	60
45-650-60	41 45	69	530	650	60
45-700-60	41 45	70	630	700	60

DURASPRING	SD* ID	AD	Lh	Lv	BB
45-650-75	41 45	67	500	650	75
45-750-75	41 45	76	600	750	75
45-900-75	41 45	78	750	900	75
45-1100-75	41 45	84	950	1100	75
45-1200-75	41 45	86	1150	1200	75
45-1300-75	41 45	89	na	1300	75
45-1000-100	41 45	71	800	1000	100
45-1200-100	41 45	75	1000	1200	100
45-1300-100	41 45	79	1100	1300	100
45-1400-100	41 45	81	1200	1400	100
45-1500-100	41 45	83	1300	1500	100
45-1600-100	41 45	87	1400	1600	100
45-1800-100	41 45	87	na	1800	100
45-1800-120	41 45	87	1560	1800	120
45-2000-120	41 45	91	1760	2000	120
45-2200-120	41 45	100	na	2200	120
50-150-30	46 50	63	90	150	30
50-250-30	46 50	68	190	250	30
50-350-30	46 50	73	290	350	30
50-250-50	46 50	62	150	250	50
50-350-50	46 50	66	250	350	50
50-450-50	46 50	70	350	450	50
50-550-50	46 50	73	450	550	50
50-650-50	46 50	76	550	650	50
50-350-60	46 50	66	230	350	60
50-450-60	46 50	65	330	450	60
50-550-60	46 50	68	430	550	60
50-600-60	46 50	72	480	600	60
50-650-60	46 50	73	530	650	60
50-750-60	46 50	80	630	750	60
50-900-60	46 50	81	780	900	60
50-750-75	46 50	78	600	750	75
50-900-75	46 50	84	750	900	75
50-1100-75	46 50	90	950	1100	75
50-1200-75	46 50	94	1050	1200	75

DURASPRING	SD* ID	AD	Lh	Lv	BB
50-1100-100	46 50	77	900	1100	100
50-1300-100	46 50	80	1100	1300	100
50-1500-100	46 50	88	1300	1500	100
50-1600-100	46 50	89	1400	1600	100
50-1700-100	46 50	91	na	1700	100
50-1800-100	46 50	94	na	1800	100
50-1700-120	46 50	91	1460	1700	120
50-1900-120	46 50	96	1660	1900	120
50-2100-120	46 50	100	1860	2100	120
50-2300-120	46 50	105	na	2300	120
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50-2800-120	46 50	118	na	2800	120
50-2500-150	46 50	116	2200	2500	150
50-2800-150	46 50	118	2500	2800	150
50-3000-150	46 50	123	2500	3000	150
50-3000-180	46 50	123	2640	3000	180
50-3250-180	46 50	128	na	3250	180
50-3250-200	46 50	128	2850	3250	200
50-3500-200	46 50	134	na	3500	200
55-150-30	51 55	67	90	150	30
55-250-30	51 55	73	190	250	30
55-300-40	51 55	71	220	300	40
55-450-40	51 55	76	370	450	40
55-250-50	51 55	66	150	250	50
55-350-50	51 55	71	250	350	50
55-450-50	51 55	74	350	450	50
55-550-50	51 55	78	450	550	50
55-650-50	51 55	80	450	650	50
55-550-60	51 55	75	430	550	60
55-650-60	51 55	79	530	650	60
55-750-60	51 55	83	630	750	60
55-800-60	51 55	86	680	800	60
55-900-60	51 55	89	780	900	60
55-1000-60	51 55	92	na	1000	60

DURASPRING	SD* ID	AD	Lh	Lv	BB
55-600-75	51 55	80	450	600	75
55-750-75	51 55	83	600	750	75
55-900-75	51 55	89	750	900	75
55-1100-75	51 55	94	950	1100	75
55-1100-100	51 55	85	900	1100	100
55-1300-100	51 55	89	1100	1300	100
55-1500-100	51 55	94	1300	1500	100
55-1800-100	51 55	102	1600	1800	100
55-1300-120	51 55	92	1060	1300	120
55-1500-120	51 55	94	1260	1500	120
55-1700-120	51 55	96	1460	1700	120
55-1900-120	51 55	100	1660	1900	120
55-2100-120	51 55	105	1860	2100	120
55-2300-120	51 55	110	2060	2300	120
55-2500-120	51 55	116	2200	2500	120
55-2800-120	51 55	123	2500	2800	120
55-2500-150	51 55	118	2200	2500	150
55-2800-150	51 55	121	2500	2800	150
55-3000-150	51 55	126	na	3000	150
55-3500-150	51 55	130	2500	3500	150
55-2800-180	51 55	114	2500	2800	180
55-3000-180	51 55	126	2640	3000	180
55-3250-180	51 55	130	2500	3250	180
55-3500-200	51 55	137	na	3500	180
60-150-30	56 60	73	90	150	30
60-250-30	56 60	78	190	250	30
60-250-50	56 60	73	150	250	50
60-350-50	56 60	78	250	350	50
60-450-50	56 60	82	350	450	50
60-550-50	56 60	85	450	550	50

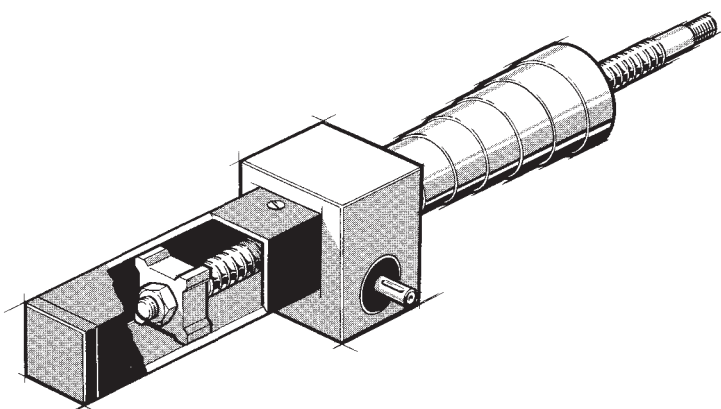
Standard types and dimensions



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DURASPRING	SD*	ID	AD	Lh	Lv	BB
60-450-60	56	60	78	430	450	60
60-550-60	56	60	81	430	550	60
60-650-60	56	60	85	530	650	60
60-750-60	56	60	89	630	750	60
60-800-60	56	60	96	680	800	60
60-900-60	56	60	98	na	900	60
60-750-75	56	60	89	600	750	75
60-900-75	56	60	95	750	900	75
60-1100-75	56	60	102	950	1100	75
60-1300-75	56	60	104	1150	1300	75
60-900-100	56	60	85	700	900	100
60-1100-100	56	60	90	900	1100	100
60-1300-100	56	60	94	1100	1300	100
60-1500-100	56	60	100	1300	1500	100
60-1800-100	56	60	109	1600	1800	100
60-1700-120	56	60	101	1460	1700	120
60-1900-120	56	60	104	1660	1900	120
60-2100-120	56	60	108	1860	2100	120
60-2300-120	56	60	114	2060	2300	120
60-2500-120	56	60	118	2300	2500	120
60-2800-120	56	60	126	2500	2800	120
60-2500-150	56	60	118	2300	2500	150
60-2800-150	56	60	123	2500	2800	150
60-3000-150	56	60	128	na	3000	150
60-3500-150	56	60	138	na	3500	150
60-3000-180	56	60	126	2640	3000	180
60-3250-180	56	60	132	na	3250	180

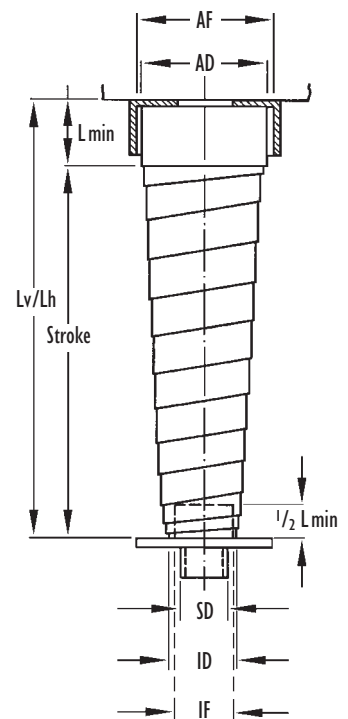
DURASPRING	SD*	ID	AD	Lh	Lv	BB
60-3250-200	56	60	132	2850	3250	200
60-3500-200	56	60	139	na	3500	200
65-100-30	61	65	76	90	100	30
65-150-30	61	65	78	90	150	30
65-250-30	61	65	85	190	250	30
65-250-50	61	65	76	150	250	50
65-350-50	61	65	84	250	350	50
65-450-50	61	65	88	350	450	50
65-550-50	61	65	92	450	550	50
65-500-60	61	65	86	380	500	60
65-550-60	61	65	88	430	550	60
65-650-60	61	65	93	530	650	60
65-700-60	61	65	94	580	700	60
65-750-60	61	65	95	630	750	60
65-800-60	61	65	98	680	800	60
65-900-60	61	65	103	780	900	60
65-750-75	61	65	93	600	750	75
65-800-75	61	65	96	650	800	75
65-900-75	61	65	99	750	900	75
65-1100-75	61	65	107	900	1100	75
65-1300-75	61	65	111	1100	1300	75
65-1500-75	61	65	115	na	1500	75
65-1000-100	61	65	91	800	1000	100
65-1100-100	61	65	95	900	1100	100
65-1300-100	61	65	99	1100	1300	100
65-1500-100	61	65	108	1300	1500	100
65-1700-100	61	65	113	na	1700	100
65-1800-100	61	65	119	1600	1800	100
65-1500-120	61	65	100	1260	1500	120
65-1700-120	61	65	106	1460	1700	120
65-1900-120	61	65	109	1660	1900	120
65-2100-120	61	65	113	1860	2100	120
65-2300-120	61	65	118	2060	2300	120
65-2500-120	61	65	128	2300	2500	120
65-2800-120	61	65	134	2500	2800	120



DURASPRING	SD*	ID	AD	Lh	Lv	BB
65-2400-150	61	65	120	2100	2400	150
65-2800-150	61	65	132	2500	2800	150
65-3000-150	61	65	142	2500	3000	150
65-3000-180	61	65	136	2640	3000	180
65-3250-180	61	65	145	na	3250	180
65-3250-200	61	65	138	2850	3250	200
65-3500-200	61	65	148	na	3500	200
70-150-30	66	70	85	90	150	30
70-250-30	66	70	93	190	250	30
70-350-30	66	70	99	290	350	30
70-250-50	66	70	85	150	250	50
70-350-50	66	70	89	250	350	50
70-450-50	66	70	94	350	450	50
70-550-50	66	70	97	450	550	50
70-650-50	66	70	100	na	650	50
70-550-60	66	70	94	430	550	60
70-650-60	66	70	97	530	650	60
70-750-60	66	70	102	630	750	60
70-900-60	66	70	113	800	900	60
70-500-75	66	70	91	350	500	75
70-600-75	66	70	94	450	600	75
70-700-75	66	70	98	550	700	75
70-800-75	66	70	102	650	800	75
70-900-75	66	70	104	750	900	75
70-1100-75	66	70	113	900	1100	75
70-700-100	66	70	88	700	700	100
70-900-100	66	70	98	900	900	100
70-1100-100	66	70	102	900	1100	100
70-1300-100	66	70	106	1100	1300	100
70-1500-100	66	70	115	1300	1500	100
70-1800-100	66	70	124	1700	1800	100

DURASPRING	SD*	ID	AD	Lh	Lv	BB
70-1500-120	66	70	110	1260	1500	120
70-1800-120	66	70	118	1560	1800	120
70-2000-120	66	70	125	1760	2000	120
70-2200-120	66	70	129	1960	2200	120
70-2400-120	66	70	136	2200	2400	120
70-2600-120	66	70	143	na	2600	120
70-3000-120	66	70	147	na	3000	120
70-2000-150	66	70	129	1700	2000	150
70-2400-150	66	70	135	2100	2400	150
70-2800-150	66	70	139	na	2800	150
70-3000-150	66	70	149	na	3000	150
70-2800-180	66	70	138	2440	2800	180
70-3000-180	66	70	141	na	3000	180
70-3250-180	66	70	152	2500	3250	180
70-3250-200	66	70	144	2500	3250	200
70-3500-200	66	70	155	2500	3500	200
75-150-30	71	75	92	90	150	30
75-250-30	71	75	98	190	250	30
75-250-50	71	75	89	150	250	50
75-350-50	71	75	94	250	350	50
75-450-50	71	75	101	350	450	50
75-500-50	71	75	105	400	500	50
75-550-60	71	75	100	430	550	60
75-650-60	71	75	103	530	650	60
75-750-60	71	75	109	630	750	60
75-650-75	71	75	99	500	650	75
75-750-75	71	75	104	600	750	75
75-900-75	71	75	111	750	900	75
75-1000-75	71	75	114	850	1000	75
75-1100-75	71	75	118	950	1100	75

Standard types and dimensions



**DURASPRING –
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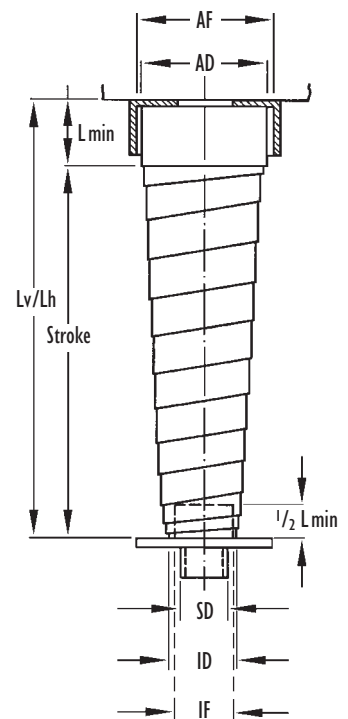
DURASPRING	SD* ID	AD	Lh	Lv	BB
75-900-100	71 75	102	na	900	100
75-1100-100	71 75	108	900	1100	100
75-1200-100	71 75	112	1000	1200	100
75-1300-100	71 75	112	1100	1300	100
75-1500-100	71 75	120	1300	1500	100
75-1700-100	71 75	126	1500	1700	100
75-1800-100	71 75	128	1600	1800	100
75-2000-100	71 75	133	1700	2000	100
75-2200-100	71 75	136	1900	2200	100
75-1500-120	71 75	115	1260	1500	120
75-1800-120	71 75	122	1560	1800	120
75-2000-120	71 75	127	1760	2000	120
75-2200-120	71 75	132	1900	2200	120
75-2400-120	71 75	138	2000	2400	120
75-2600-120	71 75	142	2200	2600	120
75-2800-120	71 75	147	na	2800	120
75-2000-150	71 75	135	1700	2000	150
75-2400-150	71 75	140	2100	2400	150
75-2600-150	71 75	144	2300	2600	150
75-2800-150	71 75	145	2500	2800	150
75-3000-150	71 75	152	na	3000	150
75-2800-180	71 75	143	2440	2800	180
75-3000-180	71 75	148	na	3000	180
75-3250-180	71 75	156	2500	3250	180
75-3250-200	71 75	148	2850	3250	200
75-3500-200	71 75	158	na	3500	200
80-150-30	76 80	98	90	150	30
80-250-30	76 80	106	190	250	30
80-250-50	76 80	96	150	250	50
80-450-50	76 80	111	350	450	50
80-550-50	76 80	114	450	550	50
80-450-60	76 80	102	330	450	60
80-550-60	76 80	105	430	550	60
80-650-60	76 80	110	530	650	60
80-750-60	76 80	115	630	750	60

DURASPRING	SD* ID	AD	Lh	Lv	BB
80-550-75	76 80	99	400	550	75
80-600-75	76 80	102	450	600	75
80-650-75	76 80	105	500	650	75
80-750-75	76 80	108	600	750	75
80-900-75	76 80	119	750	900	75
80-1000-75	76 80	123	850	1000	75
80-1200-75	76 80	128	1000	1200	75
80-1100-100	76 80	115	900	1100	100
80-1300-100	76 80	120	1100	1300	100
80-1500-100	76 80	126	1300	1500	100
80-1800-100	76 80	134	1600	1800	100
80-1300-120	76 80	115	1060	1300	120
80-1500-120	76 80	121	1260	1500	120
80-1800-120	76 80	128	1560	1800	120
80-2000-120	76 80	133	1700	2000	120
80-2200-120	76 80	137	1700	2200	120
80-2400-120	76 80	142	na	2400	120
80-2800-120	76 80	145	na	2800	120
80-2000-150	76 80	139	1700	2000	150
80-2200-150	76 80	142	1900	2200	150
80-2400-150	76 80	146	2100	2400	150
80-2600-150	76 80	148	2300	2600	150
80-2800-150	76 80	152	na	2800	150
80-3000-150	76 80	157	na	3000	150
80-2800-180	76 80	148	2440	2800	180
80-3000-180	76 80	154	na	3000	180
80-3250-180	76 80	157	na	3250	180
80-3000-200	76 80	154	2600	3000	200
80-3250-200	76 80	160	na	3250	200
80-3500-200	76 80	163	2500	3500	200
85-150-30	81 85	103	90	150	30
85-250-30	81 85	111	190	250	30

DURASPRING	SD*	ID	AD	Lh	Lv	BB
85-250-50	81	85	105	150	250	50
85-350-50	81	85	109	250	350	50
85-450-50	81	85	116	350	450	50
85-550-50	81	85	119	450	550	50
85-650-60	81	85	115	530	650	60
85-550-75	81	85	108	400	550	75
85-900-75	81	85	125	750	900	75
85-1500-100	81	85	127	1300	1500	100
85-1500-120	81	85	126	1260	1500	120
85-2000-120	81	85	138	1700	2000	120
85-2400-150	81	85	151	2100	2400	150
85-3500-200	81	85	168	na	3500	200
90-150-30	86	90	110	90	150	30
90-250-30	86	90	116	190	250	30
90-150-50	86	90	112	50	150	50
90-250-50	86	90	116	150	250	50
90-350-50	86	90	121	250	350	50
90-450-50	86	90	125	350	450	50
90-350-60	86	90	112	230	350	60
90-450-60	86	90	114	330	450	60
90-450-75	86	90	115	300	450	75
90-550-75	86	90	119	400	550	75
90-650-75	86	90	124	500	650	75
90-750-75	86	90	128	600	750	75
90-900-75	86	90	133	750	900	75
90-750-100	86	90	115	550	750	100
90-900-100	86	90	120	700	900	100
90-1100-100	86	90	126	900	1100	100
90-1300-100	86	90	132	1100	1300	100
90-1500-100	86	90	144	1300	1500	100

DURASPRING	SD*	ID	AD	Lh	Lv	BB
90-1300-120	86	90	126	1060	1300	120
90-1500-120	86	90	131	1260	1500	120
90-1800-120	86	90	138	1600	1800	120
90-2000-120	86	90	148	na	2000	120
90-1800-150	86	90	144	1500	1800	150
90-2000-150	86	90	149	1700	2000	150
90-2300-150	86	90	154	na	2300	150
90-2600-150	86	90	159	na	2600	150
90-2800-150	86	90	160	na	2800	150
90-3000-150	86	90	166	na	3000	150
90-2600-180	86	90	152	2240	2600	180
90-2800-180	86	90	158	na	2800	180
90-3000-180	86	90	164	na	3000	180
90-2600-200	86	90	153	2400	2600	200
90-3000-200	86	90	162	2500	3000	200
90-3250-200	86	90	166	2500	3250	200
90-3500-200	86	90	170	na	3500	200
90-3700-200	86	90	173	2500	3700	200
90-4000-200	86	90	182	na	4000	200
90-4200-200	86	90	185	na	4200	200
90-4500-200	86	90	194	na	4500	200
100-250-60	96	100	121	130	250	60
100-350-60	96	100	126	230	350	60
100-350-75	96	100	119	200	350	75
100-450-75	96	100	124	300	450	75
100-600-75	96	100	129	450	600	75
100-800-75	96	100	138	650	800	75
100-800-100	96	100	126	600	800	100
100-1000-100	96	100	132	800	1000	100
100-1200-100	96	100	137	1000	1200	100
100-1500-100	96	100	146	1300	1500	100

Standard types and dimensions



**DURASPRING –
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DURASPRING	SD* ID	AD	Lh	Lv	BB	DURASPRING	SD* ID	AD	Lh	Lv	BB		
100-1100-120	96	100	129	860	1100	120	110-2400-200	106	110	162	2000	2400	200
100-1300-120	96	100	136	1060	1300	120	110-2800-200	106	110	172	2500	2800	200
100-1500-120	96	100	144	na	1500	120	110-3000-200	106	110	176	na	3000	200
100-1800-120	96	100	148	na	1800	120	110-3500-200	106	110	189	na	3500	200
100-1500-150	96	100	147	1200	1500	150	120-250-50	116	120	141	na	250	50
100-1800-150	96	100	151	1500	1800	150	120-350-50	116	120	143	na	350	50
100-2000-150	96	100	157	1700	2000	150	120-250-60	116	120	141	130	250	60
100-2500-150	96	100	164	na	2500	150	120-350-60	116	120	145	230	350	60
100-3000-150	96	100	188	na	3000	150	120-450-60	116	120	150	330	450	60
100-2500-180	96	100	162	2140	2500	180	120-350-75	116	120	140	200	350	75
100-2800-180	96	100	168	na	2800	180	120-450-75	116	120	145	300	450	75
100-2800-200	96	100	165	na	2800	200	120-600-75	116	120	153	450	600	75
100-3000-200	96	100	170	na	3000	200	120-650-100	116	120	142	450	650	100
110-250-50	106	110	130	na	250	50	120-750-100	116	120	147	550	750	100
110-250-60	106	110	130	130	250	60	120-900-100	116	120	150	700	900	100
110-350-60	106	110	135	230	350	60	120-900-120	116	120	148	660	900	120
110-450-60	106	110	139	330	450	60	120-1100-120	116	120	153	860	1100	120
110-350-75	106	110	130	200	350	75	120-1300-120	116	120	158	1100	1300	120
110-450-75	106	110	134	300	450	75	120-1500-120	116	120	162	1300	1500	120
110-600-75	106	110	140	450	600	75	120-1300-150	116	120	156	1000	1300	150
110-800-75	106	110	154	650	800	75	120-1500-150	116	120	163	1200	1500	150
110-650-100	106	110	129	450	650	100	120-1800-150	116	120	167	1500	1800	150
110-750-100	106	110	134	560	750	100	120-2000-150	116	120	177	1600	2000	150
110-900-100	106	110	139	700	900	100	120-1600-180	116	120	158	1240	1600	180
110-1100-120	106	110	139	860	1100	120	120-1800-180	116	120	161	1440	1800	180
110-1300-120	106	110	145	1060	1300	120	120-2000-180	116	120	169	1640	2000	180
110-1500-120	106	110	155	1260	1500	120	120-2200-180	116	120	174	na	2200	180
110-1500-150	106	110	155	1200	1500	150	120-2200-200	116	120	165	1800	2200	200
110-1800-150	106	110	157	1500	1800	150	120-2400-200	116	120	170	2100	2400	200
110-2000-150	106	110	160	1700	2000	150	120-2600-200	116	120	174	na	2600	200
110-2200-180	106	110	165	1840	2200	180	130-170-50	126	130	150	na	170	50
110-2400-180	106	110	170	na	2400	180							

DURASPRING	SD*	ID	AD	Lh	Lv	BB
I30-250-60	126	130	145	210	250	60
I30-350-60	126	130	155	na	350	60
I30-450-60	126	130	156	410	450	60
I30-250-75	126	130	145	220	250	75
I30-350-75	126	130	150	310	350	75
I30-450-75	126	130	156	410	450	75
I30-650-100	126	130	157	600	650	100
I30-800-100	126	130	164	na	800	100
I30-600-120	126	130	158	360	600	120
I30-800-120	126	130	161	560	800	120
I30-1000-120	126	130	164	760	1000	120
I30-1100-120	126	130	163	na	1100	120
I30-900-150	126	130	163	500	900	150
I30-1300-150	126	130	170	1000	1300	150
I30-1500-150	126	130	174	1200	1500	150
I30-1800-150	126	130	185	na	1800	150
I30-1650-180	126	130	170	1650	1650	180
I30-2000-200	126	130	180	2000	2000	200
I40-250-75	136	140	158	150	250	75
I40-350-75	136	140	162	250	350	75
I40-450-75	136	140	165	350	450	75
I40-600-75	136	140	166	na	600	75
I40-350-100	136	140	153	250	350	100
I40-450-100	136	140	162	350	450	100
I40-600-100	136	140	172	500	600	100
I40-700-120	136	140	170	460	700	120
I40-1000-120	136	140	192	na	1000	120
I40-1000-150	136	140	180	700	1000	150
I40-1300-150	136	140	187	1000	1300	150
I40-1500-150	136	140	190	na	1500	150

DURASPRING	SD*	ID	AD	Lh	Lv	BB
I40-1900-200	136	140	185	1500	1900	200
I40-2000-200	136	140	193	1600	2000	200
I40-2400-200	136	140	204	na	2400	200
I50-350-60	146	150	172	300	350	60
I50-450-75	146	150	188	na	450	75
I50-500-75	146	150	190	na	500	75
I50-600-75	146	150	194	na	600	75
I50-750-150	146	150	180	na	750	100
I50-1100-150	146	150	187	na	1100	100
I50-1300-150	146	150	197	na	1300	100
I60-250-60	156	160	178	na	250	60
I60-250-75	156	160	180	na	250	75
I60-450-75	156	160	189	na	450	75
I60-450-100	156	160	182	350	450	100
I60-650-120	156	160	191	550	650	120
I60-750-120	156	160	193	600	750	120
I60-800-150	156	160	197	na	800	150
I60-950-150	156	160	200	na	950	150
I60-1000-150	156	160	202	na	1000	150
I60-1200-150	156	160	204	na	1200	150

I60-1200-200	156	160	193	na	1200	200
I60-1300-200	156	160	200	na	1300	200
I60-1400-200	156	160	212	na	1400	200
I60-2000-200	156	160	222	na	2000	200

Standard types and dimensions

