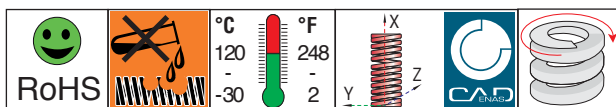
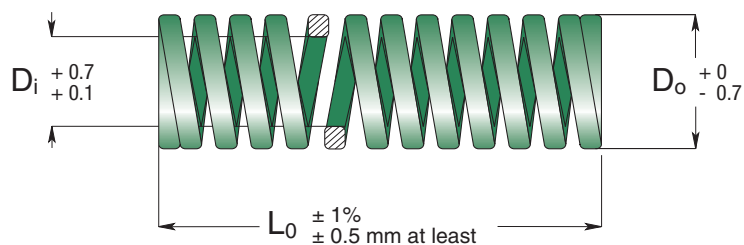


SH SERIES

JIS B 5012 - 1986

EN Heavy load springs

Code	D _o Outside Diameter	D _i Inside Diameter	L ₀ Free Length	R Spring Constant	A 19.2% L ₀ 1.000.000 cycles	B 21.6% L ₀ 500.000 cycles	C 24% L ₀ 300.000 cycles	E do not use approx.	Pcs
	mm	mm	mm	Kgf/mm ± 10%	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm	
SH 10 - 020	10	5	20	6.25	3.8	4.3	4.8	5.6	50
SH 10 - 025			25	5.00	4.8	5.4	6.0	7.0	50
SH 10 - 030			30	4.16	5.8	6.5	7.2	8.4	50
SH 10 - 035			35	3.57	6.7	7.5	8.4	9.8	50
SH 10 - 040			40	3.15	7.7	8.6	9.6	11.2	50
SH 10 - 045			45	2.77	8.6	9.7	10.8	12.6	50
SH 10 - 050			50	2.50	9.6	10.8	12.0	14.0	25
SH 10 - 055			55	2.27	10.6	11.8	13.2	15.4	25
SH 10 - 060			60	2.08	11.5	13.0	14.4	16.8	25
SH 10 - 065			65	1.92	12.5	14.0	15.6	18.2	25
SH 10 - 070			70	1.79	13.4	15.1	16.8	19.6	25
SH 10 - 075			75	1.67	14.4	16.2	18.0	21.0	25
SH 10 - 080			80	1.56	15.4	17.3	19.2	22.4	25
SH 12 - 020	12	6	20	8.90	3.8	4.3	4.8	5.6	50
SH 12 - 025			25	7.10	4.8	5.4	6.0	7.0	50
SH 12 - 030			30	5.97	5.8	6.5	7.2	8.4	50
SH 12 - 035			35	5.11	6.7	7.5	8.4	9.8	50
SH 12 - 040			40	4.47	7.7	8.6	9.6	11.2	50
SH 12 - 045			45	3.98	8.6	9.7	10.8	12.6	50
SH 12 - 050			50	3.58	9.6	10.8	12.0	14.0	25
SH 12 - 055			55	3.25	10.6	11.8	13.2	15.4	25
SH 12 - 060			60	2.98	11.5	13.0	14.4	16.8	25
SH 12 - 065			65	2.74	12.5	14.0	15.6	18.2	25
SH 12 - 070			70	2.54	13.4	15.1	16.8	19.6	25
SH 12 - 075			75	2.37	14.4	16.2	18.0	21.0	25
SH 12 - 080			80	2.21	15.4	17.3	19.2	22.4	25
SH 14 - 025	14	7	25	9.83		5.4	6.0	7.0	50
SH 14 - 030			30	8.19	4.8	6.5	7.2	8.4	50
SH 14 - 035			35	7.02	5.8	7.5	8.4	9.8	50
SH 14 - 040			40	6.14	6.7	8.6	9.6	11.2	50
SH 14 - 045			45	5.46	7.7	9.7	10.8	12.6	25
SH 14 - 050			50	4.91	8.6	10.8	12.0	14.0	25
SH 14 - 055			55	4.46	9.6	11.8	13.2	15.4	25
SH 14 - 060			60	4.09	10.6	13.0	14.4	16.8	25
SH 14 - 065			65	3.78	11.5	14.0	15.6	18.2	25
SH 14 - 070			70	3.51	12.5	15.1	16.8	19.6	25
SH 14 - 075			75	3.27	13.4	16.2	18.0	21.0	25
SH 14 - 080			80	3.07	14.4	17.3	19.2	22.4	20
SH 14 - 090			90	2.72	15.4	19.4	21.6	25.2	20
SH 16 - 025	16	8	25	12.83	17.3	5.4	6.0	7.0	50
SH 16 - 030			30	10.69	4.8	6.5	7.2	8.4	50
SH 16 - 035			35	9.16	5.8	7.5	8.4	9.8	50
SH 16 - 040			40	8.02	6.7	8.6	9.6	11.2	25
SH 16 - 045			45	7.12	7.7	9.7	10.8	12.6	25
SH 16 - 050			50	6.41	8.6	10.8	12.0	14.0	25
SH 16 - 055			55	5.83	9.6	11.8	13.2	15.4	25

1 N = 0.1 daN = 0.102 kgf

Load (N) = R (N/mm) x Deflection (mm)

SH 22 - 40 (Series D₀ - L₀)

JIS B 5012 - 1986

SERIES SH

Code	D _o Outside Diameter	D _i Inside Diameter	L ₀ Free Length	R Spring Constant ± 10%	A 19.2% L ₀ 1.000.000 cycles	B 21.6% L ₀ 500.000 cycles	C 24% L ₀ 300.000 cycles	E do not use approx.	Pcs
	mm	mm	mm	Kgf/mm	mm Kg (N)	mm Kg (N)	mm Kg (N)	mm	
SH 16 - 060	16	8	60	5.34	10.6	13.0	14.4	16.8	25
SH 16 - 065			65	4.93	11.5	14.0	15.6	18.2	25
SH 16 - 070			70	4.58	12.5	15.1	16.8	19.6	20
SH 16 - 075			75	4.28	13.4	16.2	18.0	21.0	20
SH 16 - 080			80	4.01	14.4	17.3	19.2	22.4	20
SH 16 - 090			90	3.57	15.4	19.4	21.6	25.2	20
SH 16 - 100			100	3.21	17.3	21.6	24.0	28.0	20
SH 18 - 025	18	9	25	16.16	4.8	5.4	6.0	7.0	50
SH 18 - 030			30	13.47	5.8	6.5	7.2	8.4	50
SH 18 - 035			35	11.54	6.7	7.5	8.4	9.8	25
SH 18 - 040			40	10.10	7.7	8.6	9.6	11.2	25
SH 18 - 045			45	8.98	8.6	9.7	10.8	12.6	25
SH 18 - 050			50	8.08	9.6	10.8	12.0	14.0	25
SH 18 - 055			55	7.34	10.6	11.8	13.2	15.4	25
SH 18 - 060			60	6.73	11.5	13.0	14.4	16.8	25
SH 18 - 065			65	6.21	12.5	14.0	15.6	18.2	25
SH 18 - 070			70	5.77	13.4	15.1	16.8	19.6	25
SH 18 - 075			75	5.39	14.4	16.2	18.0	21.0	25
SH 18 - 080			80	5.05	15.4	17.3	19.2	22.4	20
SH 18 - 090			90	4.50	17.3	19.4	21.6	25.2	20
SH 18 - 100			100	4.04	19.2	21.6	24.0	28.0	20
SH 20 - 025	20	10	25	20.00	4.8	5.4	6.0	7.0	50
SH 20 - 030			30	16.66	5.8	6.5	7.2	8.4	50
SH 20 - 035			35	14.28	6.7	7.5	8.4	9.8	25
SH 20 - 040			40	12.50	7.7	8.6	9.6	11.2	25
SH 20 - 045			45	11.11	8.6	9.7	10.8	12.6	25
SH 20 - 050			50	10.00	9.6	10.8	12.0	14.0	25
SH 20 - 055			55	9.09	10.6	11.8	13.2	15.4	25
SH 20 - 060			60	8.33	11.5	13.0	14.4	16.8	25
SH 20 - 065			65	7.69	12.5	14.0	15.6	18.2	25
SH 20 - 070			70	7.14	13.4	15.1	16.8	19.6	25
SH 20 - 075			75	6.67	14.4	16.2	18.0	21.0	25
SH 20 - 080			80	6.25	15.4	17.3	19.2	22.4	20
SH 20 - 090			90	5.55	17.3	19.4	21.6	25.2	20
SH 20 - 100			100	5.00	19.2	21.6	24.0	28.0	20
SH 20 - 125			125	4.00	24.0	27.0	30.0	35.0	10
SH 20 - 150			150	3.33	28.8	32.4	36.0	42.0	10
SH 22 - 025	22	11	25	24.16	4.8	5.4	6.0	7.0	50
SH 22 - 030			30	20.13	5.8	6.5	7.2	8.4	25
SH 22 - 035			35	17.30	6.7	7.5	8.4	9.8	25
SH 22 - 040			40	15.10	7.7	8.6	9.6	11.2	25
SH 22 - 045			45	13.40	8.6	9.7	10.8	12.6	25
SH 22 - 050			50	12.08	9.6	10.8	12.0	14.0	25
SH 22 - 055			55	10.94	10.6	11.8	13.2	15.4	25
SH 22 - 060			60	10.06	11.5	13.0	14.4	16.8	25
SH 22 - 065			65	9.28	12.5	14.0	15.6	18.2	25
SH 22 - 070			70	8.63	13.4	15.1	16.8	19.6	20
SH 22 - 075			75	8.04	14.4	16.2	18.0	21.0	20
SH 22 - 080			80	7.55	15.4	17.3	19.2	22.4	20
SH 22 - 090			90	6.71	17.3	19.4	21.6	25.2	20
SH 22 - 100			100	6.04	19.2	21.6	24.0	28.0	20
SH 22 - 125			125	4.83	24.0	27.0	30.0	35.0	10
SH 22 - 150			150	4.02	28.8	32.4	36.0	42.0	10

1 N = 0.1 daN = 0.102 kgf

Load (N) = R (N/mm) x Deflection (mm)

SH 22 - 40 (Series D₀ - L₀)

SH SERIES

JIS B 5012 - 1986

Code	D _o Outside Diameter	D _i Inside Diameter	L ₀ Free Length	R Spring Constant ± 10%	 A 19.2% L ₀ 1.000.000 cycles	 B 21.6% L ₀ 500.000 cycles	 C 24% L ₀ 300.000 cycles	 E do not use approx.	
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm	Pcs
SH 25 - 025	25	12.5	25	31.20	4.8	5.4	6.0	7.0	50
SH 25 - 030			30	25.97	5.8	6.5	7.2	8.4	25
SH 25 - 035			35	22.38	6.7	7.5	8.4	9.8	25
SH 25 - 040			40	19.47	7.7	8.6	9.6	11.2	25
SH 25 - 045			45	17.40	8.6	9.7	10.8	12.6	25
SH 25 - 050			50	15.58	9.6	10.8	12.0	14.0	25
SH 25 - 055			55	14.20	10.6	11.9	13.2	15.4	25
SH 25 - 060			60	12.98	11.5	13.0	14.4	16.8	25
SH 25 - 065			65	12.00	12.5	14.0	15.6	18.2	25
SH 25 - 070			70	11.13	13.4	15.1	16.8	19.6	20
SH 25 - 075			75	10.40	14.4	16.2	18.0	21.0	20
SH 25 - 080			80	9.73	15.4	17.3	19.2	22.4	20
SH 25 - 090			90	8.65	17.3	19.4	21.6	25.2	20
SH 25 - 100			100	7.79	19.2	21.6	24.0	28.0	20
SH 25 - 125			125	6.23	24.0	27.0	30.0	35.0	10
SH 25 - 150			150	5.20	28.8	32.4	36.0	42.0	10
SH 25 - 175			175	4.46	33.6	37.8	42.0	49.0	10
SH 27 - 025	27	13.5	25	36.40	4.8	5.4	6.0	7.0	20
SH 27 - 030			30	30.41	5.8	6.5	7.2	8.4	20
SH 27 - 035			35	26.20	6.7	7.5	8.4	9.8	20
SH 27 - 040			40	22.81	7.7	8.6	9.6	11.2	20
SH 27 - 045			45	20.30	8.6	9.7	10.8	12.6	20
SH 27 - 050			50	18.25	9.6	10.8	12.0	14.0	20
SH 27 - 055			55	16.50	10.6	11.9	13.2	15.4	20
SH 27 - 060			60	15.20	11.5	13.0	14.4	16.8	20
SH 27 - 065			65	14.00	12.5	14.0	15.6	18.2	20
SH 27 - 070			70	13.03	13.4	15.1	16.8	19.6	20
SH 27 - 075			75	12.10	14.4	16.2	18.0	21.0	20
SH 27 - 080			80	11.40	15.4	17.3	19.2	22.4	10
SH 27 - 090			90	10.13	17.3	19.4	21.6	25.2	10
SH 27 - 100			100	9.12	19.2	21.6	24.0	28.0	10
SH 27 - 125			125	7.30	24.0	27.0	30.0	35.0	10
SH 27 - 150			150	6.08	28.8	32.4	36.0	42.0	10
SH 27 - 175			175	5.21	33.6	37.8	42.0	49.0	5
SH 30 - 025	30	15	25	45.00	4.8	5.4	6.0	7.0	20
SH 30 - 030			30	37.50	5.8	6.5	7.2	8.4	20
SH 30 - 035			35	32.26	6.7	7.5	8.4	9.8	20
SH 30 - 040			40	28.12	7.7	8.6	9.6	11.2	20
SH 30 - 045			45	25.00	8.6	9.7	10.8	12.6	20
SH 30 - 050			50	22.50	9.6	10.8	12.0	14.0	20
SH 30 - 055			55	20.40	10.6	11.9	13.2	15.4	20
SH 30 - 060			60	18.75	11.5	13.0	14.4	16.8	20
SH 30 - 065			65	17.30	12.5	14.0	15.6	18.2	20
SH 30 - 070			70	16.07	13.4	15.1	16.8	19.6	20
SH 30 - 075			75	15.00	14.4	16.2	18.0	21.0	20
SH 30 - 080			80	14.06	15.4	17.3	19.2	22.4	10
SH 30 - 090			90	12.50	17.3	19.4	21.6	25.2	10
SH 30 - 100			100	11.25	19.2	21.6	24.0	28.0	10
SH 30 - 125			125	9.00	24.0	27.0	30.0	35.0	10
SH 30 - 150			150	7.50	28.8	32.4	36.0	42.0	10
SH 30 - 175			175	6.42	33.6	37.8	42.0	49.0	5
SH 30 - 200			200	5.62	38.4	43.2	48.0	56.0	5

1 N = 0.1 daN = 0.102 kgf

Load (N) = R (N/mm) x Deflection (mm)

SH 50 - 80 (Series D_H - L₀)

JIS B 5012 - 1986

SERIES SH

Code	D _o Outside Diameter	D _i Inside Diameter	L ₀ Free Length	R Spring Constant ± 10%	A 19.2% L ₀ 1.000.000 cycles	B 21.6% L ₀ 500.000 cycles	C 24% L ₀ 300.000 cycles	E do not use approx.	Pcs
	mm	mm	mm	Kgf/mm	mm Kgf (N)	mm Kgf (N)	mm Kgf (N)	mm	
SH 35 - 040	35	17.5	40	38.22	7.7	8.6	9.6	11.2	20
SH 35 - 045			45	33.98	8.6	9.7	10.8	12.6	20
SH 35 - 050			50	30.58	9.6	10.8	12.0	14.0	20
SH 35 - 055			55	27.80	10.5	11.9	13.2	15.4	10
SH 35 - 060			60	25.48	11.5	13.0	14.4	16.8	10
SH 35 - 065			65	23.53	12.5	14.0	15.6	18.2	10
SH 35 - 070			70	21.84	13.4	15.1	16.8	19.6	10
SH 35 - 075			75	20.39	14.4	16.2	18.0	21.0	10
SH 35 - 080			80	19.11	15.4	17.3	19.2	22.4	10
SH 35 - 090			90	16.99	17.3	19.4	21.6	25.2	10
SH 35 - 100			100	15.29	19.2	21.6	24.0	28.0	10
SH 35 - 125			125	12.23	24.0	27.0	30.0	35.0	5
SH 35 - 150			150	10.19	28.8	32.4	36.0	42.0	5
SH 35 - 175			175	8.73	33.6	37.8	42.0	49.0	5
SH 35 - 200			200	7.64	38.4	43.2	48.0	56.0	5
SH 40 - 040	40	20	40	50.00	7.7	8.6	9.6	11.2	20
SH 40 - 045			45	44.48	8.6	9.7	10.8	12.6	20
SH 40 - 050			50	40.00	9.6	10.8	12.0	14.0	20
SH 40 - 055			55	36.39	10.6	11.9	13.2	15.4	20
SH 40 - 060			60	33.33	11.5	13.0	14.4	16.8	10
SH 40 - 065			65	30.39	12.5	14.0	15.6	18.2	10
SH 40 - 070			70	28.57	13.4	15.1	16.8	19.6	10
SH 40 - 075			75	26.69	14.4	16.2	18.0	21.0	10
SH 40 - 080			80	25.00	15.4	17.3	19.2	22.4	10
SH 40 - 090			90	22.22	17.3	19.4	21.6	25.2	10
SH 40 - 100			100	20.00	19.2	21.6	24.0	28.0	10
SH 40 - 125			125	16.00	24.0	27.0	30.0	35.0	5
SH 40 - 150			150	13.33	28.8	32.4	36.0	42.0	5
SH 40 - 175			175	11.42	33.6	37.8	42.0	49.0	5
SH 40 - 200			200	10.00	38.4	43.2	48.0	56.0	5
SH 40 - 250			250	8.00	48.0	54.0	60.0	70.0	2
SH 50 - 050	50	25	50	62.50	9.6	10.8	12.0	14.0	5
SH 50 - 055			55		10.6	11.9	13.2		
SH 50 - 060			60	52.08	11.5	13.0	14.4	16.8	5
SH 50 - 065			65		12.5	14.0	15.6		
SH 50 - 070			70	44.64	13.4	15.1	16.8	19.6	5
SH 50 - 075			75		14.4	16.2	18.0		
SH 50 - 080			80	39.06	15.4	17.3	19.2	22.4	5
SH 50 - 090			90	34.72	17.3	19.4	21.6	25.2	5
SH 50 - 100			100	31.25	19.2	21.6	24.0	28.0	5
SH 50 - 125			125	25.00	24.0	27.0	30.0	35.0	5
SH 50 - 150			150	20.83	28.8	32.4	36.0	42.0	2
SH 50 - 175			175	17.85	33.6	37.8	42.0	49.0	2
SH 50 - 200			200	15.62	38.4	43.2	48.0	56.0	2
SH 50 - 250			250	12.50	48.0	54.0	60.0	70.0	2
SH 50 - 300			300	10.41	57.6	64.8	72.0	84.0	2
SH 60 - 060	60	30	60	75.00	11.5	13.0	14.4	16.8	5
SH 60 - 070			70	64.28	13.4	15.1	16.8	19.6	5
SH 60 - 080			80	56.25	15.4	17.3	19.2	22.4	5
SH 60 - 090			90	50.00	17.3	19.4	21.6	25.2	5
SH 60 - 100			100	45.00	19.2	21.6	24.0	28.0	5
SH 60 - 125			125	36.00	24.0	27.0	30.0	35.0	2
SH 60 - 150			150	30.00	28.8	32.4	36.0	42.0	2
SH 60 - 175			175	25.71	33.6	37.8	42.0	49.0	2
SH 60 - 200			200	22.50	38.4	43.2	48.0	56.0	2
SH 60 - 250			250	18.00	48.0	54.0	60.0	70.0	2
SH 60 - 300			300	15.00	57.6	64.8	72.0	84.0	2

1 N = 0.1 daN = 0.102 kgf

Load (N) = R (N/mm) x Deflection (mm)

SH 50 - 80 ([Series][D₀] - [L₀])