TIANJIN SIMFLEX COMPANY LTD.

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COMPANY PROFILE

Tianjin SIMFLEX Company LTD. was established in 2003. We export different types of springs, lock washer, bearings, fasteners etc. We always been focusing on providing professional and personalized services to customers by our R&D, manufacturing and sales departments.
Our products are strictly according to the standards and requirements of Chinese standard, Germany standard, American standard, JIS standard, international standard. We also accept customization according to the samples or drawings provided by customers.

The material we use include 65MN, 55CrSi, SK5/ SK7 springs steel, SUS 304/316 etc.
We also provide different surface treatment: White zinc plated, color zinc plated, dacromet, geomet, and black finishing etc, which can satisfy the market needs.
We use SAP system to manage our logistic chain. We promise to provide customers with reliable and high quality products and quick response services to assist our customer to improve the competitiveness in the market.

Our products are widely used in the industry of railways, mechanical equipment. Elevators, motors, automobiles, wind power, photovoltaic etc. Besides the domestic market, our products are well received by overseas customers in America, South East Asia and Middle East, European market.

Tianjin SIMFLEX Company Ltd sincerely looks forward to working together with more customer worldwide. Any interest you can contact us through email or phone.









JIS B5012 Die Spring

☞ P4	☞ P5 ~ 6	☞ P7 ~ 8	☞ P9 ~ 10
			
SIMY	SIMU	SIMR	SIMS
Extra High Deflection	Super High Deflection	High Deflection	Middle Deflection
☞P11 ~ 12	☞P13 ~ 14	☞ P15 ~ 16	☞ P17 ~ 18
			
SIMC	SIMF	SIML	SIMM
Extra Lightest Load	Lightest Load	Light Load	Medium Load
☞P19 ~ 20	☞ P21 ~ 22	☞ P23 ~ 24	☞ P25
			
SIMH	SIMB	SIMG	SIMX
Heavy Load	Extra Heavy Load	Super Heavy Load	High Speed Extra Heavy Load

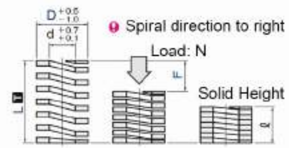
ISO 10243 Die Spring

☞P26	☞ P27 ~ 28	☞ P29 ~ 30	☞P31 ~ 32	☞ P33 ~ 34
				
SIF	SIL	SIM	SIH	SIB
Extra LIght Load	Light Load	Medium Load	Heavy Load	Super Heavy Load

Material	Color	Code
SWOSC-V	Light Green	SIMY

Content	Error
Load	±10%
Shape Angle	Below 3°

L	Tolerance
20~ 50	±0.5
55~300	±1.5%



Code	D	L	d	Spring Rate N/mm(kgf/mm)	ℓmin. Solid Height	F=L×65% Fmm	F=L×65% Load N(kgf)
SIMY	11	20	7	2.26(0.23)	5	13	29.4 (3.0)
		25		1.81(0.18)	6.3	16.3	
		30		1.51(0.15)	7.5	19.5	
		35		1.29(0.13)	8.8	22.8	
		40		1.13(0.12)	10	26	
		45		1.01(0.10)	11.3	29.3	
		50		0.91(0.09)	12.5	32.5	
		55		0.82(0.08)	13.8	35.8	
		60		0.75(0.08)	15	39	
		65		0.70(0.07)	16.3	42.3	
		70		0.65(0.07)	17.5	45.5	
		75		0.60(0.06)	18.8	48.8	
		80		0.57(0.06)	20	52	
		90		0.50(0.05)	22.5	58.5	
		100		0.45(0.05)	25	65	
SIMY	12.5	20	8.5	3.09(0.32)	5	13	40.2 (4.1)
		25		2.47(0.25)	6.3	16.3	
		30		2.06(0.21)	7.5	19.5	
		35		1.77(0.18)	8.8	22.8	
		40		1.55(0.16)	10	26	
		45		1.37(0.14)	11.3	29.3	
		50		1.24(0.13)	12.5	32.5	
		55		1.12(0.11)	13.8	35.8	
		60		1.03(0.11)	15	39	
		65		0.95(0.10)	16.3	42.3	
		70		0.88(0.09)	17.5	45.5	
		75		0.82(0.08)	18.8	48.8	
		80		0.77(0.08)	20	52	
		90		0.69(0.07)	22.5	58.5	
		100		0.62(0.06)	25	65	
		110		0.56(0.06)	27.5	71.5	
		120		0.52(0.05)	30	78	
		125		0.49(0.05)	31.3	81.3	
SIMY	16.5	20	10.5	7.02(0.72)	5	13	91.2 (9.3)
		25		5.61(0.57)	6.3	16.3	
		30		4.68(0.48)	7.5	19.5	
		35		4.01(0.41)	8.8	22.8	
		40		3.51(0.36)	10	26	
		45		3.12(0.32)	11.3	29.3	
		50		2.81(0.29)	12.5	32.5	
		55		2.55(0.26)	13.8	35.8	
		60		2.34(0.24)	15	39	
		65		2.16(0.22)	16.3	42.3	
		70		2.00(0.20)	17.5	45.5	
		75		1.87(0.19)	18.8	48.8	
		80		1.75(0.18)	20	52	
		90		1.56(0.16)	22.5	58.5	
		100		1.40(0.14)	25	65	
		110		1.28(0.13)	27.5	71.5	
		120		1.17(0.12)	30	78	
		125		1.12(0.11)	31.3	81.3	
		150		0.94(0.10)	37.5	97.5	

Service Life: 1 million (L×65%)
0.3 million (L×70%)

Code	D	L	d	Spring Rate N/mm(kgf/mm)	ℓmin. Solid Height	F=L×65% Fmm	F=L×65% Load N(kgf)
SIMY	20.5	30	13.5	5.58(0.57)	7.5	19.5	108.9 (11.1)
		35		4.78(0.49)	8.8	22.8	
		40		4.19(0.43)	10	26	
		45		3.72(0.38)	11.3	29.3	
		50		3.35(0.34)	12.5	32.5	
		55		3.04(0.31)	13.8	35.8	
		60		2.79(0.28)	15	39	
		65		2.58(0.26)	16.3	42.3	
		70		2.39(0.24)	17.5	45.5	
		75		2.23(0.23)	18.8	48.8	
		80		2.09(0.21)	20	52	
		90		1.86(0.19)	22.5	58.5	
		100		1.67(0.17)	25	65	
		110		1.52(0.16)	27.5	71.5	
		120		1.40(0.14)	30	78	
		125		1.34(0.14)	31.3	81.3	
		130		1.29(0.13)	32.5	84.5	
		140		1.20(0.12)	35	91	
		150		1.12(0.11)	37.5	97.5	
SIMY	24.5	30	16.5	6.99(0.71)	7.5	19.5	136.3 (13.9)
		35		5.99(0.61)	8.8	22.8	
		40		5.24(0.53)	10	26	
		45		4.66(0.48)	11.3	29.3	
		50		4.19(0.43)	12.5	32.5	
		55		3.81(0.39)	13.8	35.8	
		60		3.50(0.36)	15	39	
		65		3.23(0.33)	16.3	42.3	
		70		3.00(0.31)	17.5	45.5	
		75		2.80(0.29)	18.8	48.8	
		80		2.62(0.27)	20	52	
		90		2.33(0.24)	22.5	58.5	
		100		2.10(0.21)	25	65	
		110		1.91(0.19)	27.5	71.5	
		120		1.75(0.18)	30	78	
		125		1.68(0.17)	31.3	81.3	
		130		1.61(0.16)	32.5	84.5	
		140		1.50(0.15)	35	91	
		150		1.40(0.14)	37.5	97.5	
		175		1.20(0.12)	43.8	113.8	
		200		1.05(0.11)	50	130	
SIMY	30	35	21	8.79(0.90)	8.8	22.8	200.1 (20.4)
		40		7.69(0.78)	10	26	
		45		6.84(0.70)	11.3	29.3	
		50		6.16(0.63)	12.5	32.5	
		55		5.60(0.57)	13.8	35.8	
		60		5.13(0.52)	15	39	
		65		4.74(0.48)	16.3	42.3	
		70		4.40(0.45)	17.5	45.5	
		75		4.10(0.42)	18.8	48.8	
		80		3.85(0.39)	20	52	
		90		3.42(0.35)	22.5	58.5	
		100		3.08(0.31)	25	65	
		110		2.80(0.29)	27.5	71.5	
		120		2.56(0.26)	30	78	
		125		2.46(0.25)	31.3	81.3	
		130		2.37(0.24)	32.5	84.5	
		140		2.20(0.22)	35	91	
		150		2.05(0.21)	37.5	97.5	
		160		1.92(0.20)	40	104	
		170		1.81(0.18)	42.5	110.5	
		175		1.76(0.18)	43.8	113.8	
		180		1.71(0.17)	45	117	
		190		1.62(0.17)	47.5	123.5	
		200		1.54(0.16)	50	130	
		250		1.23(0.13)	62.5	162.5	
		300		1.03(0.10)	75	195	

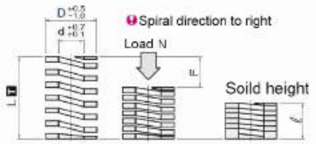
Code	D	L	d	Spring Rate N/mm(kgf/mm)	ℓmin. Solid Height	F=L×65% Fmm	F=L×65% Load N(kgf)
SIMY	37	40	26	11.32(1.15)	10	26	294.2 (30.0)
		45		10.06(1.03)	11.3	29.3	
		50		9.05(0.92)	12.5	32.5	
		55		8.23(0.84)	13.8	35.8	
		60		7.54(0.77)	15	39	
		65		6.96(0.71)	16.3	42.3	
		70		6.47(0.66)	17.5	45.5	
		75		6.03(0.62)	18.8	48.8	
		80		5.66(0.58)	20	52	
		90		5.03(0.51)	22.5	58.5	
		100		4.53(0.46)	25	65	
		110		4.11(0.42)	27.5	71.5	
		120		3.77(0.38)	30	78	
		130		3.48(0.36)	32.5	84.5	
		140		3.23(0.33)	35	91	
		150		3.02(0.31)	37.5	97.5	
		160		2.83(0.29)	40	104	
		170		2.66(0.27)	42.5	110.5	
		180		2.51(0.26)	45	117	
		190		2.38(0.24)	47.5	123.5	
		200		2.26(0.23)	50	130	
		225		2.01(0.21)	56.3	146.3	
		250		1.81(0.18)	62.5	162.5	
		275		1.65(0.17)	68.8	178.8	
		300		1.51(0.15)	75	195	
SIMY	42	50	31	12.07(1.23)	12.5	32.5	392.3 (40.0)
		60		10.06(1.03)	15	39	
		70		8.62(0.88)	17.5	45.5	
		80		7.54(0.77)	20	52	
		90		6.71(0.68)	22.5	58.5	
		100		6.03(0.62)	25	65	
		110		5.49(0.56)	27.5	71.5	
		120		5.03(0.51)	30	78	
		130		4.64(0.47)	32.5	84.5	
		140		4.31(0.44)	35	91	
		150		4.02(0.41)	37.5	97.5	
		160		3.77(0.38)	40	104	
		170		3.55(0.36)	42.5	110.5	
		180		3.35(0.34)	45	117	
		190		3.18(0.32)	47.5	123.5	
		200		3.02(0.31)	50	130	
		225		2.68(0.27)	56.3	146.3	
		250		2.41(0.25)	62.5	162.5	
		275		2.19(0.22)	68.8	178.8	
		300		2.01(0.21)	75	195	

Super High Deflection Die Spring-Sky Blue JIS Standard

M Material	Color	Code
SWOSC-V	Sky Blue	SIMU

Content	Error
Load	±10%
Shape angle	below 3°

L	T Tolerance
15~50	±0.5
55~300	±1.5%



Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid height	F=L×60% Fmm	F=L×60% Load N(kgf)
SIMU	10.5	15	6	7.63(0.78)	4.5	9	68.6 (7.0)
		20		5.72(0.58)	6	12	
		25		4.58(0.47)	7.5	15	
		30		3.81(0.39)	9	18	
		35		3.27(0.33)	10.5	21	
		40		2.86(0.29)	12	24	
		45		2.54(0.26)	13.5	27	
		50		2.29(0.23)	15	30	
		55		2.08(0.21)	16.5	33	
		60		1.91(0.19)	18	36	
		65		1.76(0.18)	19.5	39	
		70		1.63(0.17)	21	42	
		75		1.53(0.16)	22.5	45	
		80		1.43(0.15)	24	48	
SIMU	12.5	15	7	8.72(0.89)	4.5	9	78.6 (8.0)
		20		6.54(0.67)	6	12	
		25		5.23(0.53)	7.5	15	
		30		4.36(0.44)	9	18	
		35		3.74(0.38)	10.5	21	
		40		3.27(0.33)	12	24	
		45		2.91(0.30)	13.5	27	
		50		2.62(0.27)	15	30	
		55		2.38(0.24)	16.5	33	
		60		2.18(0.22)	18	36	
		65		2.01(0.21)	19.5	39	
		70		1.87(0.19)	21	42	
		75		1.74(0.18)	22.5	45	
		80		1.63(0.17)	24	48	
		90		1.45(0.15)	27	54	
		100		1.31(0.13)	30	60	
SIMU	14.5	15	8.5	10.90(1.11)	4.5	9	98.1 (10.0)
		20		8.17(0.83)	6	12	
		25		6.54(0.67)	7.5	15	
		30		5.45(0.56)	9	18	
		35		4.67(0.48)	10.5	21	
		40		4.09(0.42)	12	24	
		45		3.63(0.37)	13.5	27	
		50		3.27(0.33)	15	30	
		55		2.97(0.30)	16.5	33	
		60		2.72(0.28)	18	36	
		65		2.51(0.26)	19.5	39	
		70		2.33(0.24)	21	42	
		75		2.18(0.22)	22.5	45	
		80		2.04(0.21)	24	48	
		90		1.82(0.19)	27	54	
		100		1.63(0.17)	30	60	
		125		1.31(0.13)	37.5	75	
		150		1.09(0.11)	45	90	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid height	F=L×60% Fmm	F=L×60% Load N(kgf)
SIMU	17	20	10.5	12.26(1.25)	6	12	147.1 (15.0)
		25		9.81(1.00)	7.5	15	
		30		8.17(0.83)	9	18	
		35		7.00(0.71)	10.5	21	
		40		6.13(0.63)	12	24	
		45		5.45(0.56)	13.5	27	
		50		4.90(0.50)	15	30	
		55		4.46(0.45)	16.5	33	
		60		4.09(0.42)	18	36	
		65		3.77(0.38)	19.5	39	
		70		3.50(0.36)	21	42	
		75		3.27(0.33)	22.5	45	
		80		3.06(0.31)	24	48	
		90		2.72(0.28)	27	54	
		100		2.45(0.25)	30	60	
		125		1.96(0.20)	37.5	75	
		150		1.63(0.17)	45	90	
		175		1.40(0.14)	52.5	105	
SIMU	21	25	13.5	15.04(1.53)	7.5	15	225.6 (23.0)
		30		12.53(1.28)	9	18	
		35		10.74(1.10)	10.5	21	
		40		9.40(0.96)	12	24	
		45		8.35(0.85)	13.5	27	
		50		7.52(0.77)	15	30	
		55		6.83(0.70)	16.5	33	
		60		6.27(0.64)	18	36	
		65		5.78(0.59)	19.5	39	
		70		5.37(0.55)	21	42	
		75		5.01(0.51)	22.5	45	
		80		4.70(0.48)	24	48	
		90		4.18(0.43)	27	54	
		100		3.76(0.38)	30	60	
		110		3.42(0.35)	33	66	
		120		3.13(0.32)	36	72	
		125		3.01(0.31)	37.5	75	
		130		2.89(0.29)	39	78	
		140		2.69(0.27)	42	84	
		150		2.51(0.26)	45	90	
		175		2.15(0.22)	52.5	105	
		200		1.88(0.19)	60	120	

Cycle life: 1 million times（F=Lx60%）
0.3 million times（F=Lx65%）

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid height	F=L×60% Fmm	F=L×60% Load N(kgf)
SIMU	26	30	16.5	16.33(1.67)	9	18	294.2 (30.0)
		35		14.00(1.43)	10.5	21	
		40		12.25(1.25)	12	24	
		45		10.89(1.11)	13.5	27	
		50		9.80(1.00)	15	30	
		55		8.91(0.91)	16.5	33	
		60		8.17(0.83)	18	36	
		65		7.54(0.77)	19.5	39	
		70		7.00(0.71)	21	42	
		75		6.53(0.67)	22.5	45	
		80		6.13(0.63)	24	48	
		90		5.44(0.56)	27	54	
		100		4.90(0.50)	30	60	
		110		4.45(0.45)	33	66	
		120		4.08(0.42)	36	72	
		125		3.92(0.40)	37.5	75	
		130		3.77(0.38)	39	78	
		140		3.50(0.36)	42	84	
		150		3.27(0.33)	45	90	
		175		2.80(0.29)	52.5	105	
		200		2.45(0.25)	60	120	
		225		2.18(0.22)	67.5	135	
		250		1.96(0.20)	75	150	
SIMU	31	35	21	17.75(1.81)	10.5	21	372.7 (38.0)
		40		15.53(1.58)	12	24	
		45		13.80(1.41)	13.5	27	
		50		12.42(1.27)	15	30	
		55		11.29(1.15)	16.5	33	
		60		10.35(1.06)	18	36	
		65		9.56(0.97)	19.5	39	
		70		8.87(0.90)	21	42	
		75		8.28(0.84)	22.5	45	
		80		7.76(0.79)	24	48	
		90		6.90(0.70)	27	54	
		100		6.21(0.63)	30	60	
		110		5.65(0.58)	33	66	
		120		5.18(0.53)	36	72	
		125		4.97(0.51)	37.5	75	
		130		4.78(0.49)	39	78	
		140		4.44(0.45)	42	84	
		150		4.14(0.42)	45	90	
		160		3.88(0.40)	48	96	
		170		3.65(0.37)	51	102	
		175		3.55(0.36)	52.5	105	
		180		3.45(0.35)	54	108	
		190		3.27(0.33)	57	114	
		200		3.11(0.32)	60	120	
		250		2.48(0.25)	75	150	
		300		2.07(0.21)	90	180	

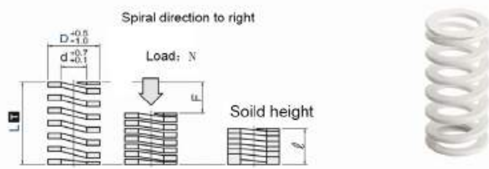
Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid height	F=L×60% Fmm	F=L×60% Load N(kgf)
SIMU	37	40	26	19.20(1.96)	12	24	460.9 (47.0)
		45		17.07(1.74)	13.5	27	
		50		15.36(1.57)	15	30	
		55		13.97(1.42)	16.5	33	
		60		12.80(1.31)	18	36	
		65		11.82(1.21)	19.5	39	
		70		10.97(1.12)	21	42	
		75		10.24(1.04)	22.5	45	
		80		9.60(0.98)	24	48	
		90		8.54(0.87)	27	54	
		100		7.68(0.78)	30	60	
		110		6.98(0.71)	33	66	
		120		6.40(0.65)	36	72	
		125		5.91(0.60)	39	78	
		130		5.49(0.56)	42	84	
		140		5.12(0.52)	45	90	
		150		4.80(0.49)	48	96	
		160		4.52(0.46)	51	102	
		170		4.27(0.44)	54	108	
		175		4.04(0.41)	57	114	
		180		3.84(0.39)	60	120	
		190		3.41(0.35)	67.5	135	
		200		3.07(0.31)	75	150	
		250		2.79(0.28)	82.5	165	
		300		2.56(0.26)	90	180	
SIMU	43	50	31	19.61(2.00)	15	30	588.4 (60.0)
		60		16.34(1.67)	18	36	
		70		14.01(1.43)	21	42	
		80		12.26(1.25)	24	48	
		90		10.90(1.11)	27	54	
		100		9.81(1.00)	30	60	
		110		8.92(0.91)	33	66	
		120		8.17(0.83)	36	72	
		130		7.54(0.77)	39	78	
		140		7.00(0.71)	42	84	
		150		6.54(0.67)	45	90	
		160		6.13(0.63)	48	96	
		170		5.77(0.59)	51	102	
		180		5.45(0.56)	54	108	
		190		5.16(0.53)	57	114	
		200		4.90(0.50)	60	120	
		225		4.36(0.44)	67.5	135	
		250		3.92(0.40)	75	150	
		275		3.57(0.36)	82.5	165	
		300		3.27(0.33)	90	180	

Cycle life: 1 million times（F=Lx60%）
0.3 million times（F=Lx65%）

Material	Color	Code
SWOSC-V	White	SIMR

Content	Error
Load	±10%
Shape angle	below 3°

L	Tolerance
15- 50	±0.5
55-400	±1.5%



Code No.			d	Spring rate	ℓ min.	F=L×50%	
Code	D	L		N/mm(kgf/mm)	Solid height	Fmm	Load N(kgf)
SIMR	10.5	15	6	10.46(1.07)	6	7.5	78.5 (8.0)
		20		7.85(0.80)	8	10	
		25		6.28(0.64)	10	12.5	
		30		5.23(0.53)	12	15	
		35		4.48(0.46)	14	17.5	
		40		3.92(0.40)	16	20	
		45		3.49(0.36)	18	22.5	
		50		3.14(0.32)	20	25	
		55		2.85(0.29)	22	27.5	
		60		2.62(0.27)	24	30	
		65		2.41(0.25)	26	32.5	
		70		2.24(0.23)	28	35	
		75		2.09(0.21)	30	37.5	
		80		1.96(0.20)	32	40	
SIMR	12.5	15	7	11.77(1.20)	6	7.5	88.3 (9.0)
		20		8.83(0.90)	8	10	
		25		7.06(0.72)	10	12.5	
		30		5.88(0.60)	12	15	
		35		5.04(0.51)	14	17.5	
		40		4.41(0.45)	16	20	
		45		3.92(0.40)	18	22.5	
		50		3.53(0.36)	20	25	
		55		3.21(0.33)	22	27.5	
		60		2.94(0.30)	24	30	
		65		2.72(0.28)	26	32.5	
		70		2.52(0.26)	28	35	
		75		2.35(0.24)	30	37.5	
		80		2.21(0.23)	32	40	
		90		1.96(0.20)	36	45	
		100		1.77(0.18)	40	50	
SIMR	14.5	15	8.5	17.00(1.73)	6	7.5	127.5 (13.0)
		20		12.75(1.30)	8	10	
		25		10.20(1.04)	10	12.5	
		30		8.50(0.87)	12	15	
		35		7.28(0.74)	14	17.5	
		40		6.37(0.65)	16	20	
		45		5.67(0.58)	18	22.5	
		50		5.10(0.52)	20	25	
		55		4.64(0.47)	22	27.5	
		60		4.25(0.43)	24	30	
		65		3.92(0.40)	26	32.5	
		70		3.64(0.37)	28	35	
		75		3.40(0.35)	30	37.5	
		80		3.19(0.33)	32	40	
		90		2.83(0.29)	36	45	
		100		2.55(0.26)	40	50	
		125		2.04(0.21)	50	62.5	
		150		1.70(0.17)	60	75	

Cycle life: 1 million times（F=Lx60%）
0.3 million times（F=Lx65%）

Code No.			d	Spring rate	ℓ min.	F=L×50%	
Code	D	L		N/mm(kgf/mm)	Solid height	Fmm	Load N(kgf)
SIMR	17	20	10.5	19.61(2.00)	8	10	196.1 (20.0)
		25		15.69(1.60)	10	12.5	
		30		13.08(1.33)	12	15	
		35		11.21(1.14)	14	17.5	
		40		9.81(1.00)	16	20	
		45		8.72(0.89)	18	22.5	
		50		7.85(0.80)	20	25	
		55		7.13(0.73)	22	27.5	
		60		6.54(0.67)	24	30	
		65		6.03(0.62)	26	32.5	
		70		5.60(0.57)	28	35	
		75		5.23(0.53)	30	37.5	
		80		4.90(0.50)	32	40	
		90		4.36(0.44)	36	45	
		100		3.92(0.40)	40	50	
		125		3.14(0.32)	50	62.5	
		150		2.62(0.27)	60	75	
		175		2.24(0.23)	70	87.5	
SIMR	21	25	13.5	23.54(2.40)	10	12.5	294.2 (30.0)
		30		19.61(2.00)	12	15	
		35		16.81(1.71)	14	17.5	
		40		14.71(1.50)	16	20	
		45		13.08(1.33)	18	22.5	
		50		11.77(1.20)	20	25	
		55		10.70(1.09)	22	27.5	
		60		9.81(1.00)	24	30	
		65		9.05(0.92)	26	32.5	
		70		8.41(0.86)	28	35	
		75		7.85(0.80)	30	37.5	
		80		7.35(0.75)	32	40	
		90		6.54(0.67)	36	45	
		100		5.88(0.60)	40	50	
		110		5.35(0.55)	44	55	
		120		4.90(0.50)	48	60	
		125		4.71(0.48)	50	62.5	
		130		4.53(0.46)	52	65	
		140		4.20(0.43)	56	70	
		150		3.92(0.40)	60	75	
		175		3.36(0.34)	70	87.5	
		200		2.94(0.30)	80	100	
SIMR	26	25	16.5	31.38(3.20)	10	12.5	392.3 (40.0)
		30		26.15(2.67)	12	15	
		35		22.42(2.29)	14	17.5	
		40		19.61(2.00)	16	20	
		45		17.43(1.78)	18	22.5	
		50		15.69(1.60)	20	25	
		55		14.26(1.45)	22	27.5	
		60		13.08(1.33)	24	30	
		65		12.07(1.23)	26	32.5	
		70		11.21(1.14)	28	35	
		75		10.46(1.07)	30	37.5	
		80		9.81(1.00)	32	40	
		90		8.72(0.89)	36	45	
		100		7.85(0.80)	40	50	
		110		7.13(0.73)	44	55	
		120		6.54(0.67)	48	60	
		125		6.28(0.64)	50	62.5	
		130		6.03(0.62)	52	65	
		140		5.60(0.57)	56	70	
		150		5.23(0.53)	60	75	
		175		4.48(0.46)	70	87.5	
		200		3.92(0.40)	80	100	
		225		3.49(0.36)	90	112.5	
		250		3.14(0.32)	100	125	

Code No.			d	Spring rate	ℓ min.	F=L×50%	
Code	D	L		N/mm(kgf/mm)	Solid height	Fmm	Load N(kgf)
SIMR	31	35	21	28.02(2.86)	14	17.5	490.3 (50.0)
		40		24.52(2.50)	16	20	
		45		21.79(2.22)	18	22.5	
		50		19.61(2.00)	20	25	
		55		17.83(1.82)	22	27.5	
		60		16.34(1.67)	24	30	
		65		15.09(1.54)	26	32.5	
		70		14.01(1.43)	28	35	
		75		13.08(1.33)	30	37.5	
		80		12.26(1.25)	32	40	
		90		10.90(1.11)	36	45	
		100		9.81(1.00)	40	50	
		110		8.92(0.91)	44	55	
		120		8.17(0.83)	48	60	
		125		7.85(0.80)	50	62.5	
		130		7.54(0.77)	52	65	
		140		7.00(0.71)	56	70	
		150		6.54(0.67)	60	75	
		160		6.13(0.63)	67	80	
		170		5.77(0.59)	68	85	
		175		5.60(0.57)	70	87.5	
		180		5.45(0.56)	72	90	
		190		5.16(0.53)	76	95	
		200		4.90(0.50)	80	100	
		250		3.92(0.40)	100	125	
		300		3.27(0.33)	120	150	
SIMR	37	35	26	33.62(3.43)	14	17.5	588.4 (60.0)
		40		29.42(3.00)	16	20	
		45		26.15(2.67)	18	22.5	
		50		23.54(2.40)	20	25	
		55		21.40(2.18)	22	27.5	
		60		19.61(2.00)	24	30	
		65		18.10(1.85)	26	32.5	
		70		16.81(1.71)	28	35	
		75		15.69(1.60)	30	37.5	
		80		14.71(1.50)	32	40	
		90		13.08(1.33)	36	45	
		100		11.77(1.20)	40	50	
		110		10.70(1.09)	44	55	
		120		9.81(1.00)	48	60	
		125		9.41(0.96)	50	62.5	
		130		9.05(0.92)	52	65	
		140		8.41(0.86)	56	70	
		150		7.85(0.80)	60	75	
		160		7.35(0.75)	64	80	
		170		6.92(0.71)	68	85	
		175		6.72(0.69)	70	87.5	
		180		6.54(0.67)	72	90	
		190		6.19(0.63)	76	95	
		200		5.88(0.60)	80	100	
		250		4.71(0.48)	100	125	
		300		3.92(0.40)	120	150	
SIMR	43	50	31	33.34(3.40)	20	25	833.6 (85.0)
		60		27.79(2.83)	24	30	
		70		23.82(2.43)	28	35	
		80		20.84(2.13)	32	40	
		90		18.52(1.89)	36	45	
		100		16.67(1.70)	40	50	
		110		15.16(1.55)	44	55	
		120		13.89(1.42)	48	60	
		130		12.82(1.31)	52	65	
		140		11.91(1.21)	56	70	
		150		11.11(1.13)	60	75	
		160		10.42(1.06)	64	80	
		170		9.81(1.00)	68	85	
		180		9.26(0.94)	72	90	
		190		8.77(0.89)	76	95	
		200		8.34(0.85)	80	100	
		225		7.41(0.76)	90	112.5	
		250		6.67(0.68)	100	125	
		275		6.06(0.62)	110	137.5	
		300		5.56(0.57)	120	150	

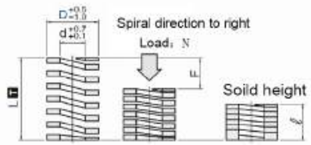
Code No.			d	Spring rate	ℓ min.	F=L×50%	
Code	D	L		N/mm(kgf/mm)	Solid height	Fmm	Load N(kgf)
SIMR	46	50	33	43.15(4.40)	20	25	1079 (110.0)
		60		35.96(3.67)	24	30	
		70		30.82(3.14)	28	35	
		80		26.97(2.75)	32	40	
		90		23.97(2.44)	36	45	
		100		21.57(2.20)	40	50	
		110		19.61(2.00)	44	55	
		120		17.98(1.83)	48	60	
		125		17.26(1.76)	50	62.5	
		130		16.60(1.69)	52	65	
		140		15.41(1.57)	56	70	
		150		14.38(1.47)	60	75	
		175		12.33(1.26)	70	87.5	
		200		10.79(1.10)	80	100	
		225		9.59(0.98)	90	112.5	
		250		8.63(0.88)	100	125	
		275		7.85(0.80)	110	137.5	
		300		7.19(0.73)	120	150	
SIMR	50	50	36	52.96(5.40)	20	25	1324 (135.0)
		60		44.13(4.50)	24	30	
		70		37.83(3.86)	28	35	
		80		33.10(3.38)	32	40	
		90		29.42(3.00)	36	45	
		100		26.48(2.70)	40	50	
		110		24.07(2.45)	44	55	
		120		22.06(2.25)	48	60	
		130		20.37(2.08)	52	65	
		140		18.91(1.93)	56	70	
		150		17.65(1.80)	60	75	
		175		15.13(1.54)	70	87.5	
		200		13.24(1.35)	80	100	
		225		11.77(1.20)	90	112.5	
		250		10.59(1.08)	100	125	
		275		9.63(0.98)	110	137.5	
		300		8.83(0.90)	120	150	
		350		7.57(0.77)	140	175	
		400		6.62(0.68)	160	200	

Cycle life: 1 million times（F=Lx60%）
0.3 million times（F=Lx65%）

Material	Color	Code
SWOSC-V	Orange	SIMS

L	Tolerance
20~300	±2%

Content	Error
Load	20%~-10%
Shape angle	below 3°



Code No. Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid height	F=L×40% F mm	F=L×40% Load N(kgf)
SIMS	10.5	20	5.5	10.79(1.10)	10	8	87.2 (8.8)
		25		8.63(0.88)	12.5	10	
		30		7.19(0.73)	15	12	
		35		6.16(0.63)	17.5	14	
		40		5.39(0.55)	20	16	
		45		4.79(0.49)	22.5	18	
		50		4.31(0.44)	25	20	
		55		3.92(0.40)	27.5	22	
		60		3.60(0.37)	30	24	
		65		3.32(0.34)	32.5	26	
		70		3.08(0.31)	35	28	
		75		2.88(0.29)	37.5	30	
		80		2.70(0.28)	40	32	
SIMS	12.5	20	6.5	15.20(1.55)	10	8	122 (12.4)
		25		12.16(1.24)	12.5	10	
		30		10.13(1.03)	15	12	
		35		8.69(0.89)	17.5	14	
		40		7.60(0.78)	20	16	
		45		6.76(0.69)	22.5	18	
		50		6.08(0.62)	25	20	
		55		5.53(0.56)	27.5	22	
		60		5.07(0.52)	30	24	
		65		4.68(0.48)	32.5	26	
		70		4.34(0.44)	35	28	
		75		4.05(0.41)	37.5	30	
		80		3.80(0.39)	40	32	
SIMS	14.5	20	8.5	24.52(2.50)	10	8	196 (20.0)
		25		19.61(2.00)	12.5	10	
		30		16.34(1.67)	15	12	
		35		14.01(1.43)	17.5	14	
		40		12.26(1.25)	20	16	
		45		10.90(1.11)	22.5	18	
		50		9.81(1.00)	25	20	
		55		8.92(0.91)	27.5	22	
		60		8.17(0.83)	30	24	
		65		7.54(0.77)	32.5	26	
		70		7.00(0.71)	35	28	
		75		6.54(0.67)	37.5	30	
		80		6.13(0.63)	40	32	
		90		5.45(0.56)	45	36	
		100		4.90(0.50)	50	40	
		125		3.92(0.40)	62.5	50	
		150		3.27(0.33)	75	60	

Code No. Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid height	F=L×40% F mm	F=L×40% Load N(kgf)
SIMS	17	25	10.5	29.42(3.00)	12.5	10	294.2 (30.0)
		30		24.52(2.50)	15	12	
		35		21.01(2.14)	17.5	14	
		40		18.39(1.88)	20	16	
		45		16.34(1.67)	22.5	18	
		50		14.71(1.50)	25	20	
		55		13.37(1.36)	27.5	22	
		60		12.26(1.25)	30	24	
		65		11.32(1.15)	32.5	26	
		70		10.51(1.07)	35	28	
		75		9.81(1.00)	37.5	30	
		80		9.19(0.94)	40	32	
		90		8.17(0.83)	45	36	
		100		7.35(0.75)	50	40	
		125		5.88(0.60)	62.5	50	
		150		4.90(0.50)	75	60	
SIMS	21	30	13.5	35.14(3.58)	15	12	422 (43.0)
		35		30.12(3.07)	17.5	14	
		40		26.36(2.69)	20	16	
		45		23.43(2.39)	22.5	18	
		50		21.08(2.15)	25	20	
		55		19.17(1.95)	27.5	22	
		60		17.57(1.79)	30	24	
		65		16.22(1.65)	32.5	26	
		70		15.06(1.54)	35	28	
		75		14.06(1.43)	37.5	30	
		80		13.18(1.34)	40	32	
		90		11.71(1.19)	45	36	
		100		10.54(1.08)	50	40	
		110		9.58(0.98)	55	44	
		120		8.79(0.90)	60	48	
		125		8.43(0.86)	62.5	50	
		130		8.11(0.83)	65	52	
		140		7.53(0.77)	70	56	
		150		7.03(0.72)	75	60	
		175		6.02(0.61)	87.5	70	
		200		5.27(0.54)	100	80	
SIMS	26	30	16.5	47.40(4.83)	15	12	569 (58.0)
		35		40.63(4.14)	17.5	14	
		40		35.55(3.63)	20	16	
		45		31.60(3.22)	22.5	18	
		50		28.44(2.90)	25	20	
		55		25.85(2.64)	27.5	22	
		60		23.70(2.42)	30	24	
		65		21.88(2.23)	32.5	26	
		70		20.31(2.07)	35	28	
		75		18.96(1.93)	37.5	30	
		80		17.77(1.81)	40	32	
		90		15.80(1.61)	45	36	
		100		14.22(1.45)	50	40	
		110		12.93(1.32)	55	44	
		120		11.85(1.21)	60	48	
		125		11.38(1.16)	62.5	50	
		130		10.94(1.12)	65	52	
		140		10.16(1.04)	70	56	
		150		9.48(0.97)	75	60	
		175		8.13(0.83)	87.5	70	
		200		7.11(0.73)	100	80	
		225		6.32(0.64)	112.5	90	
		250		5.70(0.58)	125	100	

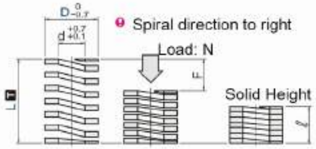
Code No. Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid height	F=L×40% F mm	F=L×40% Load N(kgf)
SIMS	31	40	21	49.03(5.00)	20	16	784 (80.0)
		45		43.58(4.44)	22.5	18	
		50		39.23(4.00)	25	20	
		55		35.66(3.64)	27.5	22	
		60		32.69(3.33)	30	24	
		65		30.17(3.08)	32.5	26	
		70		28.02(2.86)	35	28	
		75		26.15(2.67)	37.5	30	
		80		24.52(2.50)	40	32	
		90		21.79(2.22)	45	36	
		100		19.61(2.00)	50	40	
		110		17.83(1.82)	55	44	
		120		16.34(1.67)	60	48	
		125		15.69(1.60)	62.5	50	
		130		15.09(1.54)	65	52	
		140		14.01(1.43)	70	56	
		150		13.08(1.33)	75	60	
		160		12.26(1.25)	80	64	
		170		11.54(1.18)	85	68	
		175		11.21(1.14)	87.5	70	
		180		10.90(1.11)	90	72	
		190		10.32(1.05)	95	76	
		200		9.81(1.00)	100	80	
		250		7.85(0.80)	125	100	
		300		6.54(0.67)	150	120	
SIMS	37	40	26	52.10(5.31)	20	16	834 (85.0)
		45		46.31(4.72)	22.5	18	
		50		41.68(4.25)	25	20	
		55		37.89(3.86)	27.5	22	
		60		34.73(3.54)	30	24	
		65		32.06(3.27)	32.5	26	
		70		29.77(3.04)	35	28	
		75		27.79(2.83)	37.5	30	
		80		26.05(2.66)	40	32	
		90		23.15(2.36)	45	36	
		100		20.84(2.13)	50	40	
		110		18.94(1.93)	55	44	
		120		17.37(1.77)	60	48	
		125		16.67(1.70)	62.5	50	
		130		16.03(1.63)	65	52	
		140		14.89(1.52)	70	56	
		150		13.89(1.42)	75	60	
		160		13.02(1.33)	80	64	
		170		12.26(1.25)	85	68	
		175		11.91(1.21)	87.5	70	
		180		11.58(1.18)	90	72	
		190		10.97(1.12)	95	76	
		200		10.42(1.06)	100	80	
		250		8.34(0.85)	125	100	
		300		6.95(0.71)	150	120	

Code No. Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid height	F=L×40% F mm	F=L×40% Load N(kgf)
SIMS	44.5	50	31	50.01(5.10)	25	20	1003 (102.0)
		60		41.68(4.25)	30	24	
		70		35.72(3.64)	35	28	
		80		31.26(3.19)	40	32	
		90		27.79(2.83)	45	36	
		100		25.01(2.55)	50	40	
		110		22.73(2.32)	55	44	
		120		20.84(2.13)	60	48	
		130		19.24(1.96)	65	52	
		140		17.86(1.82)	70	56	
		150		16.67(1.70)	75	60	
		160		15.63(1.59)	80	64	
		170		14.71(1.50)	85	68	
		180		13.89(1.42)	90	72	
		190		13.16(1.34)	95	76	
		200		12.50(1.28)	100	80	
		225		11.11(1.13)	112.5	90	
		250		10.00(1.02)	125	100	
		275		9.09(0.93)	137.5	110	
		300		8.34(0.85)	150	120	
SIMS	46	50	33	63.74(6.50)	25	20	1275 (130.0)
		60		53.12(5.42)	30	24	
		70		45.53(4.64)	35	28	
		80		39.84(4.06)	40	32	
		90		35.41(3.61)	45	36	
		100		31.87(3.25)	50	40	
		110		28.97(2.95)	55	44	
		120		26.56(2.71)	60	48	
		125		25.50(2.60)	62.5	50	
		130		24.52(2.50)	65	52	
		140		22.77(2.32)	70	56	
		150		21.25(2.17)	75	60	
		175		18.21(1.86)	87.5	70	
		200		15.94(1.63)	100	80	
		225		14.17(1.44)	112.5	90	
		250		12.75(1.30)	125	100	
		275		11.59(1.18)	137.5	110	
		300		10.62(1.08)	150	120	
SIMS	52	60	37	65.38(6.67)	30	24	1570 (160.0)
		70		56.04(5.71)	35	28	
		80		49.03(5.00)	40	32	
		90		43.58(4.44)	45	36	
		100		39.23(4.00)	50	40	
		110		35.66(3.64)	55	44	
		120		32.69(3.33)	60	48	
		130		30.17(3.08)	65	52	
		140		28.02(2.86)	70	56	
		150		26.15(2.67)	75	60	
		175		22.42(2.29)	87.5	70	
		200		19.61(2.00)	100	80	
		225		17.43(1.78)	112.5	90	
		250		15.69(1.60)	125	100	
		275		14.26(1.45)	137.5	110	
		300		13.08(1.33)	150	120	

Material	Color	Code
SWOSC-V	Purple	SIMC

L	Tolerance
15~50	±0.5
55~500	±1%

Content	Error
Load	±10%
Shape Angle	Below 2°



Code (Code No.)	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×50% Fmm	F=L×50% Load N(kgf)	F=L×55% Fmm	F=L×55% Load N(kgf)	F=L×60% Fmm	F=L×60% Load N(kgf)
SIMC	6	15	3	3.6(0.37)	6.5	7.5	27 (2.8)	8.3	30 (3.1)	9.0	33 (3.4)
		20		2.7(0.28)	8.0	10.0		11.0		12.0	
		25		2.2(0.22)	9.0	12.5		13.8		15.0	
		30		1.8(0.19)	11.0	15.0		16.5		18.0	
		35		1.5(0.16)	13.0	17.5		19.3		21.0	
		40		1.3(0.14)	15.0	20.0		22.0		24.0	
SIMC	8	15	4.6	3.9(0.40)	5.0	7.5	29 (3.0)	8.3	31 (3.2)	9.0	34 (3.5)
		20		2.9(0.30)	6.6	10.0		11.0		12.0	
		25		2.3(0.24)	8.0	12.5		13.8		15.0	
		30		1.9(0.20)	9.3	15.0		16.5		18.0	
		35		1.6(0.17)	10.5	17.5		19.3		21.0	
		40		1.4(0.15)	11.8	20.0		22.0		24.0	
		45		1.3(0.14)	13.1	22.5		24.8		27.0	
		50		1.2(0.13)	14.4	25.0		27.5		30.0	
		55		1.0(0.11)	15.7	27.5		30.3		33.0	
		60		0.9(0.10)	16.7	30.0		33.0		36.0	
		65		0.8(0.09)	18.3	32.5		35.8		39.0	
		70		0.8(0.09)	19.5	35.0		38.5		42.0	
		75		0.7(0.08)	21.0	37.5		41.3		45.0	
		80		0.7(0.08)	22.2	40.0		44.0		48.0	
SIMC	10	15	5.8	6.1(0.63)	6.0	7.5	46 (4.7)	8.3	50 (5.1)	9.0	54 (5.5)
		20		4.6(0.47)	7.5	10.0		11.0		12.0	
		25		3.7(0.38)	9.0	12.5		13.8		15.0	
		30		3.0(0.31)	10.5	15.0		16.5		18.0	
		35		2.6(0.27)	12.0	17.5		19.3		21.0	
		40		2.3(0.24)	13.4	20.0		22.0		24.0	
		45		2.0(0.21)	14.8	22.5		24.8		27.0	
		50		1.8(0.19)	16.2	25.0		27.5		30.0	
		55		1.7(0.17)	17.7	27.5		30.3		33.0	
		60		1.5(0.16)	19.1	30.0		33.0		36.0	
		65		1.4(0.14)	20.6	32.5		35.8		39.0	
		70		1.3(0.13)	22.0	35.0		38.5		42.0	
		75		1.2(0.13)	23.4	37.5		41.3		45.0	
		80		1.1(0.12)	24.9	40.0		44.0		48.0	
		90		1.0(0.10)	27.8	45.0		49.5		54.0	

Code (Code No.)	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×50% Fmm	F=L×50% Load N(kgf)	F=L×55% Fmm	F=L×55% Load N(kgf)	F=L×60% Fmm	F=L×60% Load N(kgf)
SIMC	12	20	7.4	5.4(0.55)	7.0	10.0	54 (5.5)	11.0	59 (6.0)	12.0	64 (6.5)
		25		4.3(0.44)	8.0	12.5		13.8		15.0	
		30		3.6(0.37)	10.0	15.0		16.5		18.0	
		35		3.1(0.31)	12.0	17.5		19.3		21.0	
		40		2.7(0.28)	14.0	20.0		22.0		24.0	
		45		2.4(0.24)	15.0	22.5		24.8		27.0	
		50		2.2(0.22)	16.0	25.0		27.5		30.0	
		55		2.0(0.20)	17.0	27.5		30.3		33.0	
		60		1.8(0.18)	18.0	30.0		33.0		36.0	
		65		1.7(0.17)	20.0	32.5		35.8		39.0	
		70		1.5(0.16)	21.0	35.0		38.5		42.0	
		75		1.4(0.15)	22.0	37.5		41.3		45.0	
		80		1.3(0.14)	24.0	40.0		44.0		48.0	
		90		1.2(0.12)	27.0	45.0		49.5		54.0	
SIMC	14	25	8.5	7.8(0.80)	10.5	12.5	103 (10.5)	13.8	113 (11.5)	15.0	122 (12.5)
		30		6.5(0.67)	11.0	15.0		16.5		18.0	
		35		5.6(0.57)	13.0	17.5		19.3		21.0	
		40		4.9(0.50)	15.0	20.0		22.0		24.0	
		45		4.4(0.44)	16.7	22.5		24.8		27.0	
		50		3.9(0.40)	18.6	25.0		27.5		30.0	
		55		3.6(0.36)	20.0	27.5		30.3		33.0	
		60		3.3(0.33)	21.5	30.0		33.0		36.0	
		65		3.0(0.31)	23.0	32.5		35.8		39.0	
		70		2.8(0.29)	24.6	35.0		38.5		42.0	
		75		2.6(0.27)	26.2	37.5		41.3		45.0	
		80		2.4(0.25)	28.0	40.0		44.0		48.0	
		90		2.2(0.22)	31.0	45.0		49.5		54.0	
		100		2.2(0.20)	34.0	50.0		55.0		60.0	
SIMC	16	25	9.5	9.0(0.92)	10.0	12.5	113 (11.5)	13.8	124 (12.7)	15.0	137 (14.0)
		30		7.5(0.77)	11.0	15.0		16.5		18.0	
		35		6.5(0.66)	12.5	17.5		19.3		21.0	
		40		5.7(0.58)	13.9	20.0		22.0		24.0	
		45		5.0(0.51)	15.3	22.5		24.8		27.0	
		50		4.5(0.46)	16.7	25.0		27.5		30.0	
		55		4.1(0.42)	18.0	27.5		30.3		33.0	
		60		3.7(0.38)	19.4	30.0		33.0		36.0	
		65		3.5(0.35)	20.8	32.5		35.8		39.0	
		70		3.2(0.33)	22.2	35.0		38.5		42.0	
		75		3.0(0.31)	23.6	37.5		41.3		45.0	
		80		2.8(0.29)	25.0	40.0		44.0		48.0	
		90		2.5(0.26)	27.8	45.0		49.5		54.0	
		100		2.3(0.23)	30.5	50.0		55.0		60.0	
		125		1.8(0.18)	37.5	62.5		68.8		75.0	

Code (Code No.)	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×50% Fmm	F=L×50% Load N(kgf)	F=L×55% Fmm	F=L×55% Load N(kgf)	F=L×60% Fmm	F=L×60% Load N(kgf)
SIMC	18	25	11	10.6(1.08)	9.0	12.5	132 (13.5)	13.8	144 (14.7)	15.0	157 (16.0)
		30		8.8(0.90)	10.3	15.0		16.5		18.0	
		35		7.5(0.77)	11.5	17.5		19.3		21.0	
		40		6.6(0.68)	12.7	20.0		22.0		24.0	
		45		5.9(0.60)	14.0	22.5		24.8		27.0	
		50		5.3(0.54)	15.5	25.0		27.5		30.0	
		55		4.8(0.49)	16.5	27.5		30.3		33.0	
		60		4.4(0.45)	18.0	30.0		33.0		36.0	
		65		4.1(0.42)	19.0	32.5		35.8		39.0	
		70		3.8(0.39)	20.5	35.0		38.5		42.0	
		75		3.5(0.36)	22.0	37.5		41.3		45.0	
		80		3.3(0.34)	23.0	40.0		44.0		48.0	
		90		2.9(0.30)	25.5	45.0		49.5		54.0	
		100		2.6(0.27)	29.0	50.0		55.0		60.0	
		125		2.1(0.22)	35.0	62.5		68.8		75.0	
SIMC	20	25	12.5	14.1(1.44)	9.0	12.5	176 (18.0)	13.8	196 (20.0)	15.0	216 (22.0)
		30		11.7(1.20)	11.0	15.0		16.5		18.0	
		35		10.1(1.03)	12.5	17.5		19.3		21.0	
		40		8.8(0.90)	14.0	20.0		22.0		24.0	
		45		7.8(0.80)	15.0	22.5		24.8		27.0	
		50		7.0(0.72)	16.5	25.0		27.5		30.0	
		55		6.4(0.65)	18.0	27.5		30.3		33.0	
		60		5.9(0.60)	19.2	30.0		33.0		36.0	
		65		5.4(0.55)	20.5	32.5		35.8		39.0	
		70		5.0(0.51)	21.7	35.0		38.5		42.0	
		75		4.7(0.48)	23.0	37.5		41.3		45.0	
		80		4.4(0.45)	24.2	40.0		44.0		48.0	
		90		3.9(0.40)	27.0	45.0		49.5		54.0	
		100		3.5(0.36)	30.0	50.0		55.0		60.0	
		125		2.8(0.29)	37.0	62.5		68.8		75.0	
		150		2.3(0.24)	44.0	75.0		82.5		90.0	
SIMC	22	25	13.5	19.6(2.00)	10.0	12.5	245 (25.0)	13.8	269 (27.5)	15.0	294 (30.0)
		30		16.3(1.67)	11.0	15.0		16.5		18.0	
		35		14.0(1.43)	12.0	17.5		19.3		21.0	
		40		12.3(1.25)	14.0	20.0		22.0		24.0	
		45		10.9(1.11)	16.0	22.5		24.8		27.0	
		50		9.8(1.00)	18.0	25.0		27.5		30.0	
		55		8.9(0.91)	20.0	27.5		30.3		33.0	
		60		8.2(0.83)	22.0	30.0		33.0		36.0	
		65		7.5(0.77)	24.0	32.5		35.8		39.0	
		70		7.0(0.71)	26.0	35.0		38.5		42.0	
		75		6.5(0.67)	27.0	37.5		41.3		45.0	
		80		6.1(0.63)	29.0	40.0		44.0		48.0	
		90		5.4(0.56)	32.0	45.0		49.5		54.0	
		100		4.9(0.50)	35.0	50.0		55.0		60.0	
		125		3.9(0.40)	42.0	62.5		68.8		75.0	
		150		3.3(0.33)	50.0	75.0		82.5		90.0	

The method of load calculation:Load=Spring rate x compression

N=N/mm x Fmm(kgf=N x 0.101972)

Soild height is the reference

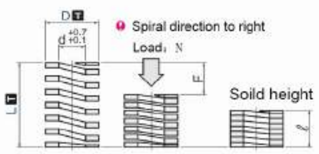
Code (Code No.)	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×50% Fmm	F=L×50% Load N(kgf)	F=L×55% Fmm	F=L×55% Load N(kgf)	F=L×60% Fmm	F=L×60% Load N(kgf)
SIMC	25	25	16	24.3(2.48)	9.0	12.5	304 (31.0)	13.8	333 (34.0)	15.0	363 (37.0)
		30		20.3(2.07)	10.5	15.0		16.5		18.0	
		35		17.4(1.77)	12.7	17.5		19.3		21.0	
		40		15.2(1.55)	14.6	20.0		22.0		24.0	
		45		13.5(1.38)	16.6	22.5		24.8		27.0	
		50		12.2(1.24)	18.0	25.0		27.5		30.0	
		55		11.1(1.13)	20.0	27.5		30.3		33.0	
		60		10.1(1.03)	21.3	30.0		33.0		36.0	
		65		9.4(0.95)	22.5	32.5		35.8		39.0	
		70		8.7(0.89)	24.0	35.0		38.5		42.0	
		75		8.1(0.83)	25.3	37.5		41.3		45.0	
		80		7.6(0.78)	26.7	40.0		44.0		48.0	
		90		6.7(0.69)	29.5	45.0		49.5		54.0	
		100		6.1(0.62)	32.2	50.0		55.0		60.0	
		125		4.9(0.50)	39.0	62.5		68.8		75.0	
		150		4.0(0.41)	45.8	75.0		82.5		90.0	
		175		3.4(0.35)	52.6	87.5		96.3		105.0	
		200		3.0(0.31)	59.5	100.0		110.0		120.0	
SIMC	27	25	17.5	28.2(2.88)	9.0	12.5	353 (36.0)	13.8	392 (40.0)	15.0	421 (43.0)
		30		23.5(2.40)	11.0	15.0		16.5		18.0	
		35		20.2(2.06)	13.0	17.5		19.3		21.0	
		40		17.7(1.80)	14.5	20.0		22.0		24.0	
		45		15.7(1.60)	17.0	22.5		24.8		27.0	
		50		14.1(1.44)	18.5	25.0		27.5		30.0	
		55		12.8(1.31)	20.0	27.5		30.3		33.0	
		60		11.8(1.20)	22.0	30.0		33.0		36.0	
		65		10.9(1.11)	23.5	32.5		35.8		39.0	
		70		10.1(1.03)	25.0	35.0		38.5		42.0	
		75		9.4(0.96)	26.3	37.5		41.3		45.0	
		80		8.8(0.90)	28.0	40.0		44.0		48.0	
		90		7.8(0.80)	30.5	45.0		49.5		54.0	
		100		7.1(0.72)	33.5	50.0		55.0		60.0	
		125		5.7(0.58)	40.5	62.5		68.8		75.0	
		150		4.7(0.48)	48.0	75.0		82.5		90.0	
		175		4.0(0.41)	55.0	87.5		96.3		105.0	
		200		3.5(0.36)	62.0	100.0		110.0		120.0	
SIMC	30	25	20	31.4(3.20)	9.5	12.5	392 (40.0)	13.8	431 (44.0)	15.0	470 (48.0)
		30		26.1(2.67)	11.0	15.0		16.5		18.0	
		35		22.4(2.29)	13.0	17.5		19.3		21.0	
		40		19.6(2.00)	14.5	20.0		22.0		24.0	
		45		17.4(1.78)	16.5	22.5		24.8		27.0	
		50		15.7(1.60)	18.0	25.0		27.5		30.0	
		55		14.3(1.45)	19.5	27.5		30.3		33.0	
		60		13.1(1.33)	20.8	30.0		33.0		36.0	
		65		12.1(1.23)	22.0	32.5		35.8		39.0	
		70		11.2(1.14)	23.3	35.0		38.5		42.0	
		75		10.5(1.07)	24.5	37.5		41.3		45.0	
		80		9.8(1.00)	25.8	40.0		44.0		48.0	
		90		8.7(0.89)	28.3	45.0		49.5		54.0	
		100		7.8(0.80)	30.8	50.0		55.0		60.0	
		125		6.3(0.64)	37.0	62.5		68.8		75.0	
		150		5.2(0.53)	43.5	75.0		82.5		90.0	
		175		4.5(0.46)	50.0	87.5		96.3		105.0	
		200		3.9(0.40)	57.0	100.0		110.0		120.0	

Simf

Material	Color	Code
SWOSC-V	Yellow	SIMF

L	Tolerance	D	Tolerance
15~50	±0.5	6~60	$^{0}_{-0.7}$
55~500	±1%	70	$^{0}_{-1.0}$

Content	Error
Load	±10%
Shape angle	below 2°



Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×40% Fmm	F=L×40% Load N(kgf)	F=L×45% Fmm	F=L×45% Load N(kgf)	F=L×50% Fmm	F=L×50% Load N(kgf)
SIMF	6	15	3	7.8(0.80)	7.1	6	47 (4.8)	6.8	53 (5.4)	7.5	59 (6.0)
		20		5.9(0.60)	9.5	8		9		10	
		25		4.7(0.48)	11.9	10		11.3		12.5	
		30		3.9(0.40)	14.2	12		13.5		15	
		35		3.4(0.34)	16.6	14		15.8		17.5	
		40		2.9(0.30)	19	16		18		20	
SIMF	8	10	4	15.7(1.60)	4.5	4	63 (6.4)	4.5	71 (7.2)	5	79 (8.0)
		15		10.5(1.07)	6.8	6		6.8		7.5	
		20		7.8(0.80)	9	8		9		10	
		25		6.3(0.64)	11.3	10		11.2		12.5	
		30		5.2(0.53)	13.5	12		13.5		15	
		35		4.5(0.46)	15.8	14		15.7		17.5	
		40		3.9(0.40)	18	16		18		20	
		45		3.5(0.36)	20.3	18		20.2		22.5	
		50		3.1(0.32)	22.5	20		22.5		25	
		55		2.9(0.29)	24.8	22		24.7		27.5	
		60		2.6(0.27)	27	24		27		30	
		65		2.4(0.25)	30.8	26		29.3		32.5	
		70		2.2(0.23)	33.2	28		31.5		35	
		75		2.1(0.21)	35.6	30		33.8		37.5	
		80		2.0(0.20)	37.9	32		36		40	
SIMF	10	10	5	19.6(2.00)	4.5	4	78 (8.0)	4.5	88 (9.0)	5	98 (10.0)
		15		13.1(1.33)	6.8	6		6.8		7.5	
		20		9.8(1.00)	9	8		9		10	
		25		7.8(0.80)	11.3	10		11.2		12.5	
		30		6.5(0.67)	13.5	12		13.5		15	
		35		5.6(0.57)	15.8	14		15.7		17.5	
		40		4.9(0.50)	18	16		18		20	
		45		4.4(0.44)	20.3	18		20.2		22.5	
		50		3.9(0.40)	22.5	20		22.5		25	
		55		3.6(0.36)	24.8	22		24.7		27.5	
		60		3.3(0.33)	27	24		27		30	
		65		3.0(0.31)	29.3	26		29.2		32.5	
		70		2.8(0.29)	31.5	28		31.5		35	
		75		2.6(0.27)	33.8	30		33.7		37.5	
		80		2.5(0.25)	36	32		36		40	
		90		2.2(0.22)	40.5	36		40.5		45	
SIMF	12	15	6	18.3(1.87)	6.8	6	110 (11.2)	6.8	124 (12.6)	7.5	137 (14.0)
		20		13.7(1.40)	9	8		9		10	
		25		11.0(1.12)	11.3	10		11.2		12.5	
		30		9.2(0.93)	13.5	12		13.5		15	
		35		7.8(0.80)	15.8	14		15.7		17.5	
		40		6.9(0.70)	18	16		18		20	
		45		6.1(0.62)	20.3	18		20.2		22.5	
		50		5.5(0.56)	22.5	20		22.5		25	
		55		5.0(0.51)	24.8	22		24.7		27.5	
		60		4.6(0.47)	27	24		27		30	
		65		4.2(0.43)	29.3	26		29.2		32.5	
		70		3.9(0.40)	31.5	28		31.5		35	
		75		3.7(0.37)	33.8	30		33.7		37.5	
		80		3.4(0.35)	36	32		36		40	
		90		3.1(0.31)	40.5	36		40.5		45	
SIMF	14	20	7	17.7(1.80)	9	8	141 (14.4)	9	159 (16.2)	10	177 (18.0)
		25		14.1(1.44)	11.3	10		11.2		12.5	
		30		11.8(1.20)	13.5	12		13.5		15	
		35		10.1(1.03)	15.8	14		15.7		17.5	
		40		8.8(0.90)	18	16		18		20	
		45		7.8(0.80)	20.3	18		20.2		22.5	
		50		7.1(0.72)	22.5	20		22.5		25	
		55		6.4(0.65)	24.8	22		24.7		27.5	
		60		5.9(0.60)	27	24		27		30	
		65		5.4(0.55)	29.3	26		29.2		32.5	
		70		5.0(0.51)	31.5	28		31.5		35	
		75		4.7(0.48)	33.8	30		33.7		37.5	
		80		4.4(0.45)	36	32		36		40	
		90		3.9(0.40)	40.5	36		40.5		45	
		100		3.5(0.36)	45	40		45		50	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×40% Fmm	F=L×40% Load N(kgf)	F=L×45% Fmm	F=L×45% Load N(kgf)	F=L×50% Fmm	F=L×50% Load N(kgf)
SIMF	16	20	8	20.6(2.10)	9	8	165 (17.0)	9	185 (19.0)	10	206 (21.0)
		25		16.5(1.68)	11.3	10		11.2		12.5	
		30		13.7(1.40)	13.5	12		13.5		15	
		35		11.8(1.20)	15.8	14		15.7		17.5	
		40		10.3(1.05)	18	16		18		20	
		45		9.2(0.93)	20.3	18		20.2		22.5	
		50		8.2(0.84)	22.5	20		22.5		25	
		55		7.5(0.76)	24.8	22		24.7		27.5	
		60		6.9(0.70)	27	24		27		30	
		65		6.3(0.65)	29.3	26		29.2		32.5	
		70		5.9(0.60)	31.5	28		31.5		35	
		75		5.5(0.56)	33.8	30		33.7		37.5	
		80		5.1(0.53)	36	32		36		40	
		90		4.6(0.47)	40.5	36		40.5		45	
		100		4.1(0.42)	45	40		45		50	
		125		3.3(0.34)	56.3	50		56.3		62.5	
SIMF	18	20	9	25.5(2.60)	9	8	204 (20.8)	9	229 (23.4)	10	255 (26.0)
		25		20.4(2.08)	11.3	10		11.2		12.5	
		30		17.0(1.73)	13.5	12		13.5		15	
		35		14.6(1.49)	15.8	14		15.7		17.5	
		40		12.7(1.30)	18	16		18		20	
		45		11.3(1.16)	20.3	18		20.2		22.5	
		50		10.2(1.04)	22.5	20		22.5		25	
		55		9.3(0.95)	24.8	22		24.7		27.5	
		60		8.5(0.87)	27	24		27		30	
		65		7.8(0.80)	29.3	26		29.2		32.5	
		70		7.3(0.74)	31.5	28		31.5		35	
		75		6.8(0.69)	33.8	30		33.7		37.5	
		80		6.4(0.65)	36	32		36		40	
		90		5.7(0.58)	40.5	36		40.5		45	
		100		5.1(0.52)	45	40		45		50	
		125		4.1(0.42)	56.3	50		56.3		62.5	
SIMF	20	20	11	31.4(3.20)	9	8	251 (25.6)	9	282 (28.8)	10	314 (32.0)
		25		25.1(2.56)	11.3	10		11.2		12.5	
		30		20.9(2.13)	13.5	12		13.5		15	
		35		17.9(1.83)	15.8	14		15.7		17.5	
		40		15.7(1.60)	18	16		18		20	
		45		13.9(1.42)	20.3	18		20.2		22.5	
		50		12.6(1.28)	22.5	20		22.5		25	
		55		11.4(1.16)	24.8	22		24.7		27.5	
		60		10.5(1.07)	27	24		27		30	
		65		9.7(0.98)	29.3	26		29.2		32.5	
		70		9.0(0.91)	31.5	28		31.5		35	
		75		8.4(0.85)	33.8	30		33.7		37.5	
		80		7.8(0.80)	36	32		36		40	
		90		7.0(0.71)	40.5	36		40.5		45	
		100		6.3(0.64)	45	40		45		50	
		125		5.0(0.51)	56.3	50		56.2		62.5	
		150		4.2(0.43)	67.5	60		67.5		75	
SIMF	22	25	11	31.4(3.20)	11.3	10	314 (32.0)	11.2	353 (36.0)	12.5	392 (40.0)
		30		26.2(2.67)	13.5	12		13.5		15	
		35		22.4(2.29)	15.8	14		15.7		17.5	
		40		19.6(2.00)	18	16		18		20	
		45		17.4(1.78)	20.3	18		20.2		22.5	
		50		15.7(1.60)	22.5	20		22.5		25	
		55		14.3(1.45)	24.8	22		24.7		27.5	
		60		13.1(1.33)	27	24		27		30	
		65		12.1(1.23)	29.3	26		29.2		32.5	
		70		11.2(1.14)	31.5	28		31.5		35	
		75		10.5(1.07)	33.8	30		33.7		37.5	
		80		9.8(1.00)	36	32		36		40	
		90		8.7(0.89)	40.5	36		40.5		45	
		100		7.8(0.80)	45	40		45		50	
		125		6.3(0.64)	56.3	50		56.2		62.5	
		150		5.2(0.53)	67.5	60		67.5		75	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×40% Fmm	F=L×40% Load N(kgf)	F=L×45% Fmm	F=L×45% Load N(kgf)	F=L×50% Fmm	F=L×50% Load N(kgf)
SIMF	25	25	13.5	39.2(4.00)	11.3	10	392 (40.0)	11.2	441 (45.0)	12.5	490 (50.0)
		30		32.7(3.33)	13.5	12		13.5		15	
		35		28.0(2.86)	15.8	14		15.7		17.5	
		40		24.5(2.50)	18	16		18		20	
		45		21.8(2.22)	20.3	18		20.2		22.5	
		50		19.6(2.00)	22.5	20		22.5		25	
		55		17.8(1.82)	24.8	22		24.7		27.5	
		60		16.3(1.67)	27	24		27		30	
		65		15.1(1.54)	29.3	26		29.2		32.5	
		70		14.0(1.43)	31.5	28		31.5		35	
		75		13.1(1.33)	33.8	30		33.7		37.5	
		80		12.3(1.25)	36	32		36		40	
		90		10.9(1.11)	40.5	36		40.5		45	
		100		9.8(1.00)	45	40		45		50	
		125		7.8(0.80)	56.3	50		56.2		62.5	
		150		6.5(0.67)	67.5	60		67.5		75	
		175		5.6(0.67)	78.8	70		78.7		87.5	
		200		4.9(0.50)	90	80		90		100	
SIMF	27	25	13.5	47.1(4.80)	11.3	10	471 (48.0)	11.2	530 (54.0)	12.5	588 (60.0)
		30		39.2(4.00)	13.5	12		13.5		15	
		35		33.6(3.43)	15.8	14		15.7		17.5	
		40		29.4(3.00)	18	16		18		20	
		45		26.2(2.67)	20.3	18		20.2		22.5	
		50		23.5(2.40)	22.5	20		22.5		25	
		55		21.4(2.18)	24.8	22		24.7		27.5	
		60		19.6(2.00)	27	24		27		30	
		65		18.1(1.85)	29.3	26		29.2		32.5	
		70		16.8(1.71)	31.5	28		31.5		35	
		75		15.7(1.60)	33.8	30		33.7		37.5	
		80		14.7(1.50)	36	32		36		40	
		90		13.1(1.33)	40.5	36		40.5		45	
		100		11.8(1.20)	45	40		45		50	
		125		9.4(0.96)	56.3	50		56.2		62.5	
		150		7.8(0.80)	67.5	60		67.5		75	
		175		6.7(0.69)	78.8	70		78.7		87.5	
		200		5.9(0.60)	90	80		90		100	
SIMF	30	25	16	56.5(5.76)	11.3	10	565 (57.6)	11.2	635 (64.8)	12.5	706 (72.0)
		30		47.1(4.80)	13.5	12		13.5		15	
		35		40.3(4.11)	15.8	14		15.7		17.5	
		40		35.3(3.60)	18	16		18		20	
		45		31.4(3.20)	20.3	18		20.2		22.5	
		50		28.2(2.88)	22.5	20		22.5		25	
		55		25.7(2.62)	24.8	22		24.7		27.5	
		60		23.5(2.40)	27	24		27		30	
		65		21.7(2.22)	29.3	26		29.2		32.5	
		70		20.2(2.06)	31.5	28		31.5		35	
		75		18.8(1.92)	33.8	30		33.7		37.5	
		80		17.7(1.80)	36	32		36		40	
		90		15.7(1.60)	40.5	36		40.5		45	
		100		14.1(1.44)	45	40		45		50	
		125		11.3(1.15)	56.3	50		56.2		62.5	
		150		9.4(0.96)	67.5	60		67.5		75	
		175		8.1(0.82)	78.8	70		78.7		87.5	
		200		7.1(0.72)	90	80		90		100	
SIMF	35	40	19	48.1(4.90)	18	16	768 (78.0)	18	864 (88.0)	20	960 (98.0)
		45		42.7(4.36)	20.3	18		20.2		22.5	
		50		38.4(3.92)	22.5	20		22.5		25	
		55		34.9(3.56)	24.8	22		24.7		27.5	
		60		32.0(3.27)	27	24		27		30	
		65		29.6(3.02)	29.3	26		29.2		32.5	
		70		27.5(2.80)	31.5	28		31.5		35	
		75		25.6(2.61)	33.8	30		33.7		37.5	
		80		24.0(2.45)	36	32		36		40	
		90		21.4(2.18)	40.5	36		40.5		45	
		100		19.2(1.96)	45	40		45		50	
		125		15.4(1.57)	56.3	50		56.2		62.5	
		150		12.8(1.31)	67.5	60		67.5		75	
		175		11.0(1.12)	78.8	70		78.7		87.5	
		200		9.6(0.98)	90	80		90		100	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×40% Fmm	F=L×40% Load N(kgf)	F=L×45% Fmm	F=L×45% Load N(kgf)	F=L×50% Fmm	F=L×50% Load N(kgf)
SIMF	40	40	22	62.8(6.40)	18	16	1003 (102.0)	18	1129 (115.0)	20	1254 (128.0)
		45		55.8(5.69)	21.3	18		20.3		22.5	
		50		50.2(5.12)	22.5	20		22.5		25	
		55		45.6(4.65)	26.1	22		24.8		27.5	
		60		41.8(4.27)	27	24		27		30	
		65		38.6(3.94)	30.8	26		29.3		32.5	
		70		35.9(3.66)	31.5	28		31.5		35	
		75		33.5(3.41)	35.6	30		33.8		37.5	
		80		31.4(3.20)	36	32		36		40	
		90		27.9(2.84)	40.5	36		40.5		45	
		100		25.1(2.56)	45	40		45		50	
		125		20.1(2.05)	56.3	50		56.2		62.5	
		150		16.7(1.71)	67.5	60		67.5		75	
		175		14.3(1.46)	78.8	70		78.7		87.5	
		200		12.6(1.28)	90	80		90		100	
		225		11.2(1.14)	101	90		101.3		112.5	
		250		10.0(1.02)	112.5	100		112.5		125	
		275		9.1(0.93)	124	110		123.8		137.5	
		300		8.4(0.85)	142.2	120		135		150	
SIMF	50	50	27.5	78.5(8.00)	22.5	20	1568 (160.0)	22.5	1764 (180.0)	25	1960 (200.0)
		55		71.3(7.27)	24.8	22		24.8		27.5	
		60		65.4(6.67)	27	24		27		30	
		65		60.3(6.15)	29.3	26		29.3		32.5	
		70		56.0(5.71)	31.5	28		31.5		35	
		75		52.3(5.33)	33.8	30		33.8		37.5	
		80		49.0(5.00)	36	32		36		40	
		90		43.6(4.44)	40.5	36		40.5		45	
		100		39.2(4.00)	45	40		45		50	
		125		31.4(3.20)	56.3	50		56.2		62.5	
		150		26.2(2.67)	67.5	60		67.5		75	
		175		22.4(2.29)	78.8	70		78.7		87.5	
		200		19.6(2.00)	90	80		90		100	
		225		17.4(1.78)	101	90		101.3		112.5	
		250		15.7(1.60)	112.5	100		112.5		125	
		275		14.3(1.45)	124	110		123.8		137.5	
		300		13.1(1.33)	135	120		135		150	
		350		11.2(1.14)	165.9	140		157.5		175	
		400		9.8(1.00)	189.6	160		180		200	
		450		8.7(0.89)	213.3	180		202.5		225	
		500		7.8(0.80)	237	200		225		250	
SIMF	60	60	33	94.1(9.60)	27	24	2256 (230.0)	27	2538 (259.0)	30	2820 (288.0)
		70		80.7(8.23)	31.5	28		31.5		35	
		80		70.6(7.20)	36	32		36		40	
		90		62.8(6.40)	40.5	36		40		45	
		100		56.5(5.76)	45	40		45		50	
		125		45.2(4.61)	56.3	50		56.2		62.5	
		150		37.7(3.84)	67.5	60		67.5		75	
		175		32.3(3.29)	78.8	70		78.7		87.5	
		200		28.2(2.88)	90	80		90		100	
		225		25.1(2.56)	101.3	90		101.3		112.5	
		250		22.6(2.30)	112.5	100		112.5		125	
		275		20.5(2.09)	123.8	110		123.8		137.5	
		300		18.8(1.92)	135	120		135		150	
		350		16.1(1.65)	165.9	140		157.5		175	
		400		14.1(1.44)	189.6	160		180		200	
		450		12.6(1.28)	213.3	180		202.5		225	
		500		11.3(1.15)	237	200		225		250	
SIMF	70	70	38.5	112.1(11.4)	33.2	28	3136 (320.0)	31.5	352 (360.0)	35	3920 (400.0)
		80		98.1(10.0)	37.9	32		36		40	
		90		87.2(8.9)	42.7	36		40.5		45	
		100		78.5(8.0)	47.4	40		45		50	
		125		62.8(6.4)	59.3	50		56.3		62.5	
		150		52.3(5.3)	71.1	60		67.5		75	
		175		44.8(4.6)	83	70		78.8		87.5	
		200		39.2(4.0)	94.8	80		90		100	
		250		31.4(3.2)	118.5	100		112.5		125	
		300		26.2(2.7)	142.2	120		135		150	
		350		22.4(2.3)	165.9	140		157.5		175	
				Cycle life		1 million		0.5 million		0.3 million	

The method of load calculation:Load=Spring rate x compression

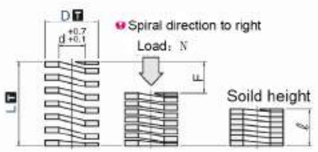
N=N/mm x Fmm(kgf=N x 0.101972)

Soild height is the reference

Material	Color	Code
SWOSC-V	Blue	SIML

L	Tolerance	D	Tolerance
15- 50	±0.5	6-60	0 / -0.7
55-350	±1%	70	0 / -1.0

Content	Error
Load	±10%
Shape angle	below 2°



Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid height	F=L×32% Fmm	F=L×32% Load N(kgf)	F=L×36% Fmm	F=L×36% Load N(kgf)	F=L×40% Fmm	F=L×40% Load N(kgf)
SIML	6	15	3	13.1(1.33)	8.6	4.8	63 (6.4)	5.4	71 (7.2)	6	78 (8.0)
		20		9.8(1.00)	11.5	6.4		7.2		8	
		25		7.8(0.80)	14.4	8		9		10	
		30		6.5(0.67)	17.2	9.6		10.8		12	
		35		5.6(0.57)	20.1	11.2		12.6		14	
		40		4.9(0.50)	23	12.8		14.4		16	
SIML	8	10	4	24.5(2.50)	5.4	3.2	78 (8.0)	3.6	88 (9.0)	4	98 (10.0)
		15		16.3(1.67)	8.1	4.8		5.4		6	
		20		12.3(1.25)	10.8	6.4		7.2		8	
		25		9.8(1.00)	13.5	8		9		10	
		30		8.2(0.83)	16.2	9.6		10.8		12	
		35		7.0(0.71)	18.9	11.2		12.6		14	
		40		6.1(0.63)	21.6	12.8		14.4		16	
		45		5.4(0.56)	24.3	14.4		16.2		18	
		50		4.9(0.50)	27	16		18		20	
		55		4.5(0.45)	29.7	17.6		19.8		22	
		60		4.1(0.42)	32.4	19.2		21.6		24	
		65		3.8(0.38)	37.3	20.8		23.4		26	
		70		3.5(0.36)	40.2	22.4		25.2		28	
		75		3.3(0.33)	43.1	24		27		30	
		80		3.1(0.31)	45.9	25.6		28.8		32	
SIML	10	10	5	34.3(3.50)	5.4	3.2	110 (11.2)	3.6	124 (12.6)	4	137 (14.0)
		15		22.9(2.33)	8.1	4.8		5.4		6	
		20		17.2(1.75)	10.8	6.4		7.2		8	
		25		13.7(1.40)	13.5	8		9		10	
		30		11.4(1.17)	16.2	9.6		10.8		12	
		35		9.8(1.00)	18.9	11.2		12.6		14	
		40		8.6(0.88)	21.6	12.8		14.4		16	
		45		7.6(0.78)	24.3	14.4		16.2		18	
		50		6.9(0.70)	27	16		18		20	
		55		6.2(0.64)	29.7	17.6		19.8		22	
		60		5.7(0.58)	32.4	19.2		21.6		24	
		65		5.3(0.54)	35.1	20.8		23.4		26	
		70		4.9(0.50)	37.8	22.4		25.2		28	
		75		4.6(0.47)	40.5	24		27		30	
		80		4.3(0.44)	43.2	25.6		28.8		32	
		90		3.8(0.39)	48.6	28.8		32.4		36	
SIML	12	15	6	34.3(3.50)	8.1	4.8	165 (17.0)	5.4	185 (19.0)	6	206 (21.0)
		20		25.7(2.63)	10.8	6.4		7.2		8	
		25		20.6(2.10)	13.5	8		9		10	
		30		17.2(1.75)	16.2	9.6		10.8		12	
		35		14.7(1.50)	18.9	11.2		12.6		14	
		40		12.9(1.31)	21.6	12.8		14.4		16	
		45		11.4(1.17)	24.3	14.4		16.2		18	
		50		10.3(1.05)	27	16		18		20	
		55		9.4(0.95)	29.7	17.6		19.8		22	
		60		8.6(0.88)	32.4	19.2		21.6		24	
		65		7.9(0.81)	35.1	20.8		23.4		26	
		70		7.4(0.75)	37.8	22.4		25.2		28	
		75		6.9(0.70)	40.5	24		27		30	
		80		6.4(0.66)	43.2	25.6		28.8		32	
		90		5.7(0.58)	48.6	28.8		32.4		36	
SIML	14	20	7	34.3(3.50)	10.8	6.4	220 (22.4)	7.2	247 (25.2)	8	275 (28.0)
		25		27.5(2.80)	13.5	8		9		10	
		30		22.9(2.33)	16.2	9.6		10.8		12	
		35		19.6(2.00)	18.9	11.2		12.6		14	
		40		17.2(1.75)	21.6	12.8		14.4		16	
		45		15.3(1.56)	24.3	14.4		16.2		18	
		50		13.7(1.40)	27	16		18		20	
		55		12.5(1.27)	29.7	17.6		19.8		22	
		60		11.4(1.17)	32.4	19.2		21.6		24	
		65		10.6(1.08)	35.1	20.8		23.4		26	
		70		9.8(1.00)	37.8	22.4		25.2		28	
		75		9.2(0.93)	40.5	24		27		30	
		80		8.6(0.88)	43.2	25.6		28.8		32	
		90		7.6(0.78)	48.6	28.8		32.4		36	
		100		6.9(0.70)	54	32		36		40	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid height	F=L×32% Fmm	F=L×32% Load N(kgf)	F=L×36% Fmm	F=L×36% Load N(kgf)	F=L×40% Fmm	F=L×40% Load N(kgf)
SIML	16	20	8	42.9(4.38)	10.8	6.4	275 (28.0)	7.2	309 (31.5)	8	343 (35.0)
		25		34.3(3.50)	13.5	8		9		10	
		30		28.6(2.92)	16.2	9.6		10.8		12	
		35		24.5(2.50)	18.9	11.2		12.6		14	
		40		21.5(2.19)	21.6	12.8		14.4		16	
		45		19.1(1.94)	24.3	14.4		16.2		18	
		50		17.2(1.75)	27	16		18		20	
		55		15.6(1.59)	29.7	17.6		19.8		22	
		60		14.3(1.46)	32.4	19.2		21.6		24	
		65		13.2(1.35)	35.1	20.8		23.4		26	
		70		12.3(1.26)	37.8	22.4		25.2		28	
		75		11.4(1.17)	40.5	24		27		30	
		80		10.7(1.09)	43.2	25.6		28.8		32	
		90		9.5(0.97)	48.6	28.8		32.4		36	
		100		8.6(0.88)	54	32		36		40	
		125		6.9(0.70)	67.5	40		45		50	
SIML	18	20	9	52.7(5.38)	10.8	6.4	337 (34.4)	7.2	380 (38.7)	8	422 (43.0)
		25		42.2(4.30)	13.5	8		9		10	
		30		35.1(3.58)	16.2	9.6		10.8		12	
		35		30.1(3.07)	18.9	11.2		12.6		14	
		40		26.4(2.69)	21.6	12.8		14.4		16	
		45		23.4(2.39)	24.3	14.4		16.2		18	
		50		21.1(2.15)	27	16		18		20	
		55		19.2(1.96)	29.7	17.6		19.8		22	
		60		17.6(1.79)	32.4	19.2		21.6		24	
		65		16.2(1.65)	35.1	20.8		23.4		26	
		70		15.1(1.54)	37.8	22.4		25.2		28	
		75		14.1(1.43)	40.5	24		27		30	
		80		13.2(1.34)	43.2	25.6		28.8		32	
		90		11.7(1.19)	48.6	28.8		32.4		36	
		100		10.5(1.08)	54	32		36		40	
		125		8.4(0.86)	67.5	40		45		50	
SIML	20	20	10	63.0(5.40)	10.8	6.4	424 (43.2)	7.2	477 (48.6)	8	530 (54.0)
		25		53.0(5.40)	13.5	8		9		10	
		30		44.1(4.50)	16.2	9.6		10.8		12	
		35		37.8(3.86)	18.9	11.2		12.6		14	
		40		33.1(3.38)	21.6	12.8		14.4		16	
		45		29.4(3.00)	24.3	14.4		16.2		18	
		50		26.5(2.70)	27	16		18		20	
		55		24.1(2.45)	29.7	17.6		19.8		22	
		60		22.1(2.25)	32.4	19.2		21.6		24	
		65		20.4(2.08)	35.1	20.8		23.4		26	
		70		18.9(1.93)	37.8	22.4		25.2		28	
		75		17.7(1.80)	40.5	24		27		30	
		80		16.5(1.69)	43.2	25.6		28.8		32	
		90		14.7(1.50)	48.6	28.8		32.4		36	
		100		13.2(1.35)	54	32		36		40	
		125		10.6(1.08)	67.5	40		45		50	
		150		8.8(0.90)	81	48		54		60	
SIML	22	25	11	65.7(6.70)	13.5	8	526 (53.6)	9	591 (60.3)	10	657 (67.0)
		30		54.8(5.58)	16.2	9.6		10.8		12	
		35		46.9(4.79)	18.9	11.2		12.6		14	
		40		41.1(4.19)	21.6	12.8		14.4		16	
		45		36.5(3.72)	24.3	14.4		16.2		18	
		50		32.9(3.35)	27	16		18		20	
		55		29.9(3.05)	29.7	17.6		19.8		22	
		60		27.4(2.79)	32.4	19.2		21.6		24	
		65		25.3(2.58)	35.1	20.8		23.4		26	
		70		23.5(2.39)	37.8	22.4		25.2		28	
		75		21.9(2.23)	40.5	24		27		30	
		80		20.5(2.09)	43.2	25.6		28.8		32	
		90		18.3(1.86)	48.6	28.8		32.4		36	
		100		16.4(1.68)	54	32		36		40	
		125		13.1(1.34)	67.5	40		45		50	
		150		11.0(1.12)	81	48		54		60	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid height	F=L×32% Fmm	F=L×32% Load N(kgf)	F=L×36% Fmm	F=L×36% Load N(kgf)	F=L×40% Fmm	F=L×40% Load N(kgf)
SIML	25	25	12.5	82.4(8.40)	13.5	8	659 (67.2)	9	741 (75.6)	10	824 (84.0)
		30		68.6(7.00)	16.2	9.6		10.8		12	
		35		58.8(6.00)	18.9	11.2		12.6		14	
		40		51.5(5.25)	21.6	12.8		14.4		16	
		45		45.8(4.67)	24.3	14.4		16.2		18	
		50		41.2(4.20)	27	16		18		20	
		55		37.4(3.82)	29.7	17.6		19.8		22	
		60		34.3(3.50)	32.4	19.2		21.6		24	
		65		31.7(3.23)	35.1	20.8		23.4		26	
		70		29.4(3.00)	37.8	22.4		25.2		28	
		75		27.5(2.80)	40.5	24		27		30	
		80		25.7(2.63)	43.2	25.6		28.8		32	
		90		22.9(2.33)	48.6	28.8		32.4		36	
		100		20.6(2.10)	54	32		36		40	
		125		16.5(1.68)	67.5	40		45		50	
		150		13.7(1.40)	81	48		54		60	
		175		11.8(1.20)	94.5	56		63		70	
		200		10.3(1.05)	108	64		72		80	
SIML	27	25	13.5	96.1(10.00)	13.5	8	785 (80.0)	9	883 (90.0)	10	981 (100.0)
		30		81.7(8.33)	16.2	9.6		10.8		12	
		35		70.0(7.14)	18.9	11.2		12.6		14	
		40		61.3(6.25)	21.6	12.8		14.4		16	
		45		54.5(5.56)	24.3	14.4		16.2		18	
		50		49.0(5.00)	27	16		18		20	
		55		44.6(4.55)	29.7	17.6		19.8		22	
		60		40.9(4.17)	32.4	19.2		21.6		24	
		65		37.7(3.85)	35.1	20.8		23.4		26	
		70		35.0(3.57)	37.8	22.4		25.2		28	
		75		32.7(3.33)	40.5	24		27		30	
		80		30.6(3.13)	43.2	25.6		28.8		32	
		90		27.2(2.78)	48.6	28.8		32.4		36	
		100		24.5(2.50)	54	32		36		40	
		125		19.6(2.00)	67.5	40		45		50	
		150		16.3(1.67)	81	48		54		60	
		175		14.0(1.43)	94.5	56		63		70	
		200		12.3(1.25)	108	64		72		80	
SIML	30	25	15	118.7(12.10)	13.5	8	949 (96.6)	9	1067 (108.8)	10	1186 (121.0)
		30		98.9(10.08)	16.2	9.6		10.8		12	
		35		84.8(8.64)	18.9	11.2		12.6		14	
		40		74.2(7.56)	21.6	12.8		14.4		16	
		45		65.9(6.72)	24.3	14.4		16.2		18	
		50		59.3(6.05)	27	16		18		20	
		55		53.9(5.50)	29.7	17.6		19.8		22	
		60		49.4(5.04)	32.4	19.2		21.6		24	
		65		45.6(4.65)	35.1	20.8		23.4		26	
		70		42.4(4.32)	37.8	22.4		25.2		28	
		75		39.6(4.03)	40.5	24		27		30	
		80		37.1(3.78)	43.2	25.6		28.8		32	
		90		33.0(3.36)	48.6	28.8		32.4		36	
		100		29.7(3.03)	54	32		36		40	
		125		23.7(2.42)	67.5	40		45		50	
		150		19.8(2.02)	81	48		54		60	
		175		17.0(1.73)	94.5	56		63		70	
		200		14.8(1.51)	108	64		72		80	
SIML	35	40	17.5	101.1(10.31)	21.6	12.8	1294 (131.8)	14.4	1455 (148.4)	16	1617 (165.0)
		45		89.9(9.17)	24.3	14.4		16.2		18	
		50		80.9(8.25)	27	16		18		20	
		55		73.5(7.50)	29.7	17.6		19.8		22	
		60		67.4(6.88)	32.4	19.2		21.6		24	
		65		62.2(6.35)	35.1	20.8		23.4		26	
		70		57.8(5.89)	37.8	22.4		25.2		28	
		75		53.9(5.50)	40.5	24		27		30	
		80		50.6(5.16)	43.2	25.6		28.8		32	
		90		44.9(4.58)	48.6	28.8		32.4		36	
		100		40.5(4.13)	54	32		36		40	
		125		32.4(3.30)	67.5	40		45		50	
		150		27.0(2.75)	81	48		54		60	
		175		23.1(2.36)	94.5	56		63		70	
		200		20.2(2.06)	108	64		72		80	
				Cycle life		1 million		0.5 million		0.3 million	

The method of load calculation:Load=Spring rate x compression

N=N/mm x Fmm(kgf=N x 0.101972)

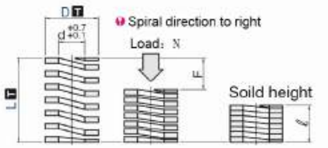
Soild height is the reference

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid height	F=L×32% Fmm	F=L×32% Load N(kgf)	F=L×36% Fmm	F=L×36% Load N(kgf)	F=L×40% Fmm	F=L×40% Load N(kgf)
SIML	40	40	20	132.4(13.50)	21.6	12.8	1694 (172.7)	14.4	1905 (194.3)	16	2117 (216.0)
		45		117.7(12.00)	25.8	14.4		16.2		18	
		50		105.9(10.80)	27	16		18		20	
		55		96.3(9.82)	31.8	17.6		19.8		22	
		60		88.3(9.00)	32.4	19.2		21.6		24	
		65		81.5(8.31)	37.3	20.8		23.4		26	
		70		75.7(7.71)	37.8	22.4		25.2		28	
		75		70.6(7.20)	43.1	24		27		30	
		80		66.2(6.75)	45.9	25.6		28.8		32	
		90		58.8(6.00)	48.6	28.8		32.4		36	
		100		53.0(5.40)	54	32		36		40	
		125		42.4(4.32)	67.5	40		45		50	
		150		35.3(3.60)	81	48		54		60	
		175		30.3(3.09)	94.5	56		63		70	
		200		26.5(2.70)	108	64		72		80	
		225		23.5(2.40)	122	72		81		90	
		250		21.2(2.16)	135	80		90		100	
		275		19.3(1.96)	149	88		99		110	
		300		17.7(1.80)	172.2	96		108		120	
SIML	50	50	25	165.7(16.90)	27	16	2650 (270.0)	18	2981 (304.0)	20	3312 (338.0)
		55		150.7(15.36)	29.7	17.6		19.8		22	
		60		138.1(14.08)	32.4	19.2		21.6		24	
		65		127.5(13.00)	35.1	20.8		23.4		26	
		70		118.4(12.07)	37.8	22.4		25.2		28	
		75		110.5(11.27)	40.5	24		27		30	
		80		103.6(10.56)	43.2	25.6		28.8		32	
		90		92.1(9.39)	48.6	28.8		32.4		36	
		100		82.9(8.45)	54	32		36		40	
		125		66.3(6.76)	67.5	40		45		50	
		150		55.2(5.63)	81	48		54		60	
		175		47.4(4.83)	94.5	56		63		70	
		200		41.4(4.23)	108	64		72		80	
		225		36.8(3.76)	122	72		81		90	
		250		33.1(3.38)	135	80		90		100	
		275		30.1(3.07)	149	88		99		110	
		300		27.6(2.82)	172.2	96		108		120	
		350		23.7(2.41)	200.9	112		126		140	
		400		20.7(2.11)	216	128		144		160	
		450		18.4(1.88)	243	144		162		180	
		500		16.6(1.69)	270	160		180		200	
SIML	60	60	30	198.6(20.25)	32.4	19.2	3816 (389.0)	21.6	4293 (438.0)	24	4770 (486.0)
		70		170.2(17.36)	37.8	22.4		25.2		28	
		80		148.9(15.19)	43.2	25.6		28.8		32	
		90		132.4(13.50)	48.6	28.8		32.4		36	
		100		119.2(12.15)	54	32		36		40	
		125		95.3(9.72)	67.5	40		45		50	
		150		79.4(8.10)	81	48		54		60	
		175		68.1(6.94)	94.5	56		63		70	
		200		59.6(6.08)	108	64		72		80	
		225		53.0(5.40)	122	72		81		90	
		250		47.7(4.86)	135	80		90		100	
		275		43.3(4.42)	149	88		99		110	
		300		39.7(4.05)	172.2	96		108		120	
		350		34.0(3.47)	200.9	112		126		140	
		400		29.8(3.04)	216	128		144		160	
		450		26.5(2.70)	243	144		162		180	
		500		23.8(2.43)	270	160		180		200	
SIML	70	70	38.5	213.7(21.8)	40.2	22.4	4782 (488.0)	25.2	5380 (549.0)	28	5978 (610.0)
		80		186.9(19.1)	45.9	25.6		28.8		32	
		90		166.2(16.9)	51.7	28.8		32.4		36	
		100		179.6(15.3)	57.4	32		36		40	
		125		119.6(12.2)	71.8	40		45		50	
		150		99.7(10.2)	86.1	48		54		60	
		175		85.5(8.7)	100.5	56		63		70	
		200		74.8(7.6)	114.8	64		72		80	
		250		59.8(6.1)	143.5	80		90		100	
		300		49.9(5.1)	172.2	96		108		120	
		350		42.7(4.4)	200.9	112		126		140	
				Cycle life		1 million		0.5 million		0.3 million	

Material	Color	Code
SWOSC-V	Red	SIMM

L	Tolerance	D	Tolerance
10~50	±0.5	6~60	0 / -0.7
55~350	±1%	70	0 / -1.0

Content	Error
Load	±10%
Shape angle	below 2°



Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×25.6% Fmm	Load N(kgf)	F=L×28.8% Fmm	Load N(kgf)	F=L×32% Fmm	Load N(kgf)
SIMM	6	15	3	20.4(2.08)	9.8	3.8	79 (8.0)	4.3	88 (9.0)	4.8	98 (10.0)
		20		15.3(1.56)	13.1	5.1		5.8		6.4	
		25		12.3(1.25)	16.4	6.4		7.2		8	
		30		10.2(1.04)	19.6	7.7		8.6		9.6	
		35		8.8(0.89)	22.9	9		10.1		11.2	
		40		7.7(0.78)	26.2	10.2		11.5		12.8	
		45		6.8(0.69)	29.4	11.5		13		14.4	
		50		6.1(0.63)	32.7	12.8		14.4		16	
		55		5.6(0.57)	36	14.1		15.8		17.6	
		60		5.1(0.52)	39.2	15.4		17.3		19.2	
SIMM	8	10	4	42.9(4.38)	6.6	2.6	110 (11.2)	2.9	123 (12.6)	3.2	137 (14.0)
		15		28.6(2.92)	9.4	3.8		4.3		4.8	
		20		21.5(2.19)	12.5	5.1		5.8		6.4	
		25		17.2(1.75)	15.7	6.4		7.2		8	
		30		14.3(1.46)	18.8	7.7		8.6		9.6	
		35		12.3(1.25)	21.9	9		10.1		11.2	
		40		10.7(1.09)	25	10.2		11.5		12.8	
		45		9.5(0.97)	28.2	11.5		13		14.4	
		50		8.6(0.88)	31.3	12.8		14.4		16	
		55		7.8(0.80)	34.4	14.1		15.8		17.6	
		60		7.2(0.73)	37.6	15.4		17.3		19.2	
		65		6.6(0.67)	42.5	16.6		18.7		20.8	
		70		6.1(0.63)	45.8	17.9		20.2		22.4	
		75		5.7(0.58)	49.1	19.2		21.6		24	
		80		5.4(0.55)	52.3	20.5		23		25.6	
SIMM	10	10	5	61.3(6.25)	6.6	2.6	157 (16.0)	2.9	176 (18.0)	3.2	196 (20.0)
		15		40.9(4.17)	9.8	3.8		4.3		4.8	
		20		30.6(3.13)	12.5	5.1		5.8		6.4	
		25		24.5(2.50)	15.7	6.4		7.2		8	
		30		20.4(2.08)	18.8	7.7		8.6		9.6	
		35		17.5(1.79)	21.9	9		10.1		11.2	
		40		15.3(1.56)	25	10.2		11.5		12.8	
		45		13.6(1.39)	28.2	11.5		13		14.4	
		50		12.3(1.25)	31.3	12.8		14.4		16	
		55		11.1(1.14)	34.4	14.1		15.8		17.6	
		60		10.2(1.04)	37.6	15.4		17.3		19.2	
		65		9.4(0.96)	40.7	16.6		18.7		20.8	
		70		8.8(0.89)	43.8	17.9		20.2		22.4	
		75		8.2(0.83)	47	19.2		21.6		24	
		80		7.7(0.78)	50.1	20.5		23		25.6	
		90		6.8(0.69)	56.3	23		25.9		28.8	
SIMM	12	15	6	59.2(6.04)	9.8	3.8	227 (23.0)	4.3	256 (26.0)	4.8	284 (29.0)
		20		44.4(4.53)	12.5	5.1		5.8		6.4	
		25		35.5(3.63)	15.7	6.4		7.2		8	
		30		29.6(3.02)	18.8	7.7		8.6		9.6	
		35		25.4(2.59)	21.9	9		10.1		11.2	
		40		22.2(2.27)	25	10.2		11.5		12.8	
		45		19.7(2.01)	28.2	11.5		13		14.4	
		50		17.8(1.81)	31.3	12.8		14.4		16	
		55		16.2(1.65)	34.4	14.1		15.8		17.6	
		60		14.8(1.51)	37.6	15.4		17.3		19.2	
		65		13.7(1.39)	40.7	16.6		18.7		20.8	
		70		12.7(1.29)	43.8	17.9		20.2		22.4	
		75		11.8(1.21)	47	19.2		21.6		24	
		80		11.1(1.13)	50.1	20.5		23		25.6	
		90		9.9(1.01)	56.3	23		25.9		28.8	
SIMM	14	20	7	59.8(6.09)	13.1	5.1	306 (31.0)	5.8	345 (35.0)	6.4	383 (39.0)
		25		47.8(4.88)	15.7	6.4		7.2		8	
		30		39.8(4.06)	18.8	7.7		8.6		9.6	
		35		34.1(3.48)	21.9	9		10.1		11.2	
		40		29.9(3.05)	25	10.2		11.5		12.8	
		45		26.6(2.71)	28.2	11.5		13		14.4	
		50		23.9(2.44)	31.3	12.8		14.4		16	
		55		21.7(2.22)	34.4	14.1		15.8		17.6	
		60		19.9(2.03)	37.6	15.4		17.3		19.2	
		65		18.4(1.88)	40.7	16.6		18.7		20.8	
		70		17.1(1.74)	43.8	17.9		20.2		22.4	
		75		15.9(1.63)	47	19.2		21.6		24	
		80		14.9(1.52)	50.1	20.5		23		25.6	
		90		13.3(1.35)	56.3	23		25.9		28.8	
		100		12.0(1.22)	62.6	25.6		28.8		32	
				Cycle life		1 million		0.5 million		0.4 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×25.6% Fmm	Load N(kgf)	F=L×28.8% Fmm	Load N(kgf)	F=L×32% Fmm	Load N(kgf)
SIMM	16	20	8	78.1(7.97)	13.1	5.1	400 (41.0)	5.8	450 (46.0)	6.4	500 (51.0)
		25		62.5(6.38)	15.7	6.4		7.2		8	
		30		52.1(5.31)	18.8	7.7		8.6		9.6	
		35		44.7(4.55)	21.9	9		10.1		11.2	
		40		39.1(3.98)	25	10.2		11.5		12.8	
		45		34.7(3.54)	28.2	11.5		13		14.4	
		50		31.3(3.19)	31.3	12.8		14.4		16	
		55		28.4(2.90)	34.4	14.1		15.8		17.6	
		60		26.0(2.66)	37.6	15.4		17.3		19.2	
		65		24.0(2.45)	40.7	16.6		18.7		20.8	
		70		22.3(2.28)	43.8	17.9		20.2		22.4	
		75		20.8(2.13)	47	19.2		21.6		24	
		80		19.5(1.99)	50.1	20.5		23		25.6	
		90		17.4(1.77)	56.3	23		25.9		28.8	
		100		15.6(1.59)	62.6	25.6		28.8		32	
SIMM	18	20	9	99.6(10.16)	13.1	5.1	510 (52.0)	5.8	574 (58.5)	6.4	637 (65.0)
		25		79.7(8.13)	15.7	6.4		7.2		8	
		30		66.4(6.77)	18.8	7.7		8.6		9.6	
		35		56.9(5.80)	21.9	9		10.1		11.2	
		40		49.8(5.08)	25	10.2		11.5		12.8	
		45		44.3(4.51)	28.2	11.5		13		14.4	
		50		39.8(4.06)	31.3	12.8		14.4		16	
		55		36.2(3.69)	34.4	14.1		15.8		17.6	
		60		33.2(3.39)	37.6	15.4		17.3		19.2	
		65		30.6(3.13)	40.7	16.6		18.7		20.8	
		70		28.5(2.90)	43.8	17.9		20.2		22.4	
		75		26.6(2.71)	47	19.2		21.6		24	
		80		24.9(2.54)	50.1	20.5		23		25.6	
		90		22.1(2.26)	56.3	23		25.9		28.8	
		100		19.9(2.03)	62.6	25.6		28.8		32	
SIMM	20	20	10	122.6(12.50)	13.1	5.1	628 (64.0)	5.8	706 (72.0)	6.4	784 (80.0)
		25		98.1(10.00)	15.7	6.4		7.2		8	
		30		81.7(8.33)	18.8	7.7		8.6		9.6	
		35		70.0(7.14)	21.9	9		10.1		11.2	
		40		61.3(6.25)	25	10.2		11.5		12.8	
		45		54.5(5.56)	28.2	11.5		13		14.4	
		50		49.0(5.00)	31.3	12.8		14.4		16	
		55		44.6(4.55)	34.4	14.1		15.8		17.6	
		60		40.9(4.17)	37.6	15.4		17.3		19.2	
		65		37.7(3.85)	40.7	16.6		18.7		20.8	
		70		35.0(3.57)	43.8	17.9		20.2		22.4	
		75		32.7(3.33)	47	19.2		21.6		24	
		80		30.6(3.13)	50.1	20.5		23		25.6	
		90		27.2(2.78)	56.3	23		25.9		28.8	
		100		24.5(2.50)	62.6	25.6		28.8		32	
		125		19.6(2.00)	78.3	32		36		40	
		150		16.3(1.67)	93.9	38.4		43.2		48	
SIMM	22	25	11	118.9(12.13)	15.7	6.4	761 (77.6)	7.2	856 (87.3)	8	951 (97.0)
		30		99.1(10.10)	18.8	7.7		8.6		9.6	
		35		84.9(8.66)	21.9	9		10.1		11.2	
		40		74.3(7.58)	25	10.2		11.5		12.8	
		45		66.1(6.74)	28.2	11.5		13		14.4	
		50		59.5(6.06)	31.3	12.8		14.4		16	
		55		54.0(5.51)	34.4	14.1		15.8		17.6	
		60		49.5(5.05)	37.6	15.4		17.3		19.2	
		65		45.7(4.66)	40.7	16.6		18.7		20.8	
		70		42.5(4.33)	43.8	17.9		20.2		22.4	
		75		39.6(4.04)	47	19.2		21.6		24	
		80		37.2(3.79)	50.1	20.5		23		25.6	
		90		33.0(3.37)	56.3	23		25.9		28.8	
		100		29.7(3.03)	62.6	25.6		28.8		32	
		125		23.8(2.43)	78.3	32		36		40	
		150		19.8(2.02)	93.9	38.4		43.2		48	
				Cycle life		1 million		0.5 million		0.4 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×25.6% Fmm	Load N(kgf)	F=L×28.8% Fmm	Load N(kgf)	F=L×32% Fmm	Load N(kgf)
SIMM	25	25	12.5	153.2(15.63)	15.7	6.4	981 (100.0)	7.2	1103 (112.5)	8	1225 (125.0)
		30		127.7(13.02)	18.8	7.7		8.6		9.6	
		35		109.4(11.16)	21.9	9		10.1		11.2	
		40		95.8(9.77)	25	10.2		11.5		12.8	
		45		85.1(8.68)	28.2	11.5		13		14.4	
		50		76.6(7.81)	31.3	12.8		14.4		16	
		55		69.6(7.10)	34.4	14.1		15.8		17.6	
		60		63.8(6.51)	37.6	15.4		17.3		19.2	
		65		58.9(6.01)	40.7	16.6		18.7		20.8	
		70		54.7(5.58)	43.8	17.9		20.2		22.4	
		75		51.1(5.21)	47	19.2		21.6		24	
		80		47.9(4.88)	50.1	20.5		23		25.6	
		90		42.6(4.34)	56.3	23		25.9		28.8	
		100		38.3(3.91)	62.6	25.6		28.8		32	
		125		30.6(3.13)	78.3	32		36		40	
		150		25.5(2.60)	93.9	38.4		43.2		48	
		175		21.9(2.23)	109.6	44.8		50.4		56	
SIMM	27	25	13.5	179.0(18.25)	15.7	6.4	1145 (116.8)	7.2	1288 (131.4)	8	1431 (146.0)
		30		149.1(15.21)	18.8	7.7		8.6		9.6	
		35		127.8(13.04)	21.9	9		10.1		11.2	
		40		111.9(11.41)	25	10.2		11.5		12.8	
		45		99.4(10.14)	28.2	11.5		13		14.4	
		50		89.5(9.13)	31.3	12.8		14.4		16	
		55		81.4(8.30)	34.4	14.1		15.8		17.6	
		60		74.6(7.60)	37.6	15.4		17.3		19.2	
		65		68.8(7.02)	40.7	16.6		18.7		20.8	
		70		63.9(6.52)	43.8	17.9		20.2		22.4	
		75		59.7(6.08)	47	19.2		21.6		24	
		80		55.9(5.70)	50.1	20.5		23		25.6	
		90		49.7(5.07)	56.3	23		25.9		28.8	
		100		44.7(4.56)	62.6	25.6		28.8		32	
		125		35.8(3.65)	78.3	32		36		40	
		150		29.8(3.04)	93.9	38.4		43.2		48	
		175		25.6(2.61)	109.6	44.8		50.4		56	
SIMM	30	25	15	220.6(22.50)	15.7	6.4	1412 (144.0)	7.2	1589 (162.0)	8	1765 (180.0)
		30		183.9(18.75)	18.8	7.7		8.6		9.6	
		35		157.6(16.07)	21.9	9		10.1		11.2	
		40		137.9(14.06)	25	10.2		11.5		12.8	
		45		122.6(12.50)	28.2	11.5		13		14.4	
		50		110.3(11.25)	31.3	12.8		14.4		16	
		55		100.3(10.23)	34.4	14.1		15.8		17.6	
		60		91.9(9.38)	37.6	15.4		17.3		19.2	
		65		84.9(8.65)	40.7	16.6		18.7		20.8	
		70		78.8(8.04)	43.8	17.9		20.2		22.4	
		75		73.5(7.50)	47	19.2		21.6		24	
		80		69.0(7.03)	50.1	20.5		23		25.6	
		90		61.3(6.25)	56.3	23		25.9		28.8	
		100		55.2(5.63)	62.6	25.6		28.8		32	
		125		44.1(4.50)	78.3	32		36		40	
		150		36.8(3.75)	93.9	38.4		43.2		48	
		175		31.5(3.21)	109.6	44.8		50.4		56	
		200		27.6(2.81)	125.2	51.2		57.6		64	
SIMM	35	40	17.5	187.7(19.14)	25	10.2	1921 (196.0)	11.5	2161 (220.0)	12.8	2401 (245.0)
		45		166.8(17.01)	28.2	11.5		12.9		14.4	
		50		150.2(15.31)	31.3	12.8		14.4		16	
		55		136.5(13.92)	34.4	14.1		15.8		17.6	
		60		125.1(12.76)	37.6	15.4		17.3		19.2	
		65		115.5(11.78)	40.7	16.6		18.7		20.8	
		70		107.3(10.94)	43.8	17.9		20.2		22.4	
		75		100.1(10.21)	47	19.2		21.6		24	
		80		93.9(9.57)	50.1	20.5		23		25.6	
		90		83.4(8.51)	56.3	23		25.9		28.8	
		100		75.1(7.66)	62.6	25.6		28.8		32	
		125		60.1(6.13)	78.3	32		36		40	
		150		50.1(5.10)	93.9	38.4		43.2		48	
		175		42.9(4.38)	109.6	44.8		50.4		56	
		200		37.5(3.83)	125.5	51.2		57.6		64	
				Cycle life		1 million		0.5 million		0.4 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓmin Solid Height	F=L×25.6% Fmm	Load N(kgf)	F=L×28.8% Fmm	Load N(kgf)	F=L×32% Fmm	Load N(kgf)
SIMM	40	40	20	245.2(25.00)	25	10.2	2510 (256.0)	11.5	2824 (288.0)	12.8	3138 (320.0)
		45		217.9(22.22)	29.4	11.5		13		14.4	
		50		196.1(20.00)	31.3	12.8		14.4		16	
		55		178.3(18.18)	36	14.1		15.8		17.6	
		60		163.4(16.67)	37.6	15.4		17.3		19.2	
		65		150.9(15.38)	42.5	16.6		18.7		20.8	
		70		140.1(14.29)	43.8	17.9		20.2		22.4	
		75		130.8(13.33)	49.1	19.2		21.6		24	
		80		122.6(12.50)	50.1	20.5		23		25.6	
		90		109.0(11.11)	56.3	23		25.9		28.8	
		100		98.1(10.00)	62.6	25.6		28.8		32	
		125		78.5(8.00)	78.3	32		36		40	
		150		65.4(6.67)	93.9	38.4		43.2		48	
		175		56.0(5.71)	109.6	44.8		50.4		56	
		200		49.0(5.00)	125.5	51.2		57.6		64	
		225		43.6(4.44)	141	57.6		64.8		72	
		250		39.2(4.00)	156.5	64		72		80	
		275		35.7(3.64)	172	70.4		79.2		88	
		300		32.7(3.33)	196.2	76.8		86.4		96	
SIMM	50	50	25	306.5(31.25)	31.3	12.8	3920 (400.0)	14.4	4410 (450.0)	16	4900 (500.0)
		55		278.6(28.41)	34.4	14.1		15.8		17.6	
		60		255.4(26.04)	37.6	15.4		17.3		19.2	
		65		235.7(24.04)	40.7	16.6		18.7		20.8	
		70		218.9(22.32)	43.8	17.9		20.2		22.4	
		75		204.3(20.83)	47	19.2		21.6		24	
		80		191.5(19.53)	50.1	20.5		23		25.6	
		90		170.3(17.36)	56.3	23		25.9		28.8	
		100		153.2(15.63)	62.6	25.6		28.8		32	
		125		122.6(12.50)	78.3	32		36		40	
		150		102.2(10.42)	93.9	38.4		43.2		48	
		175		87.6(8.93)	109.6	44.8		50.4		56	
		200		76.6(7.81)	125.2	51.2		57.6		64	
		225		68.1(6.94)	141	57.6		64.8		72	
		250		61.3(6.25)	156.5	64		72		80	
		275		55.7(5.68)	172	70.4		79.2		88	
		300		51.1(5.21)	187.8	76.8		86.4		96	
		350		43.8(4.46)	228.9	89.6		100.8		112	
SIMM	60	60	30	367.7(37.50)	37.6	15.4	5645 (576.0)	17.3	6350 (648.0)	19.2	7056 (720.0)
		70		315.2(32.14)	43.8	17.9		20.2		22.4	
		80		275.8(28.13)	50.1	20.5		23		25.6	
		90		245.2(25.00)	56.3	23		25.9		28.8	
		100		220.6(22.50)	62.6	25.6		28.8		32	
		125		176.5(18.00)	78.3	32		36		40	
		150		147.1(15.00)	93.9	38.4		43.2		48	
		175		126.1(12.86)	109.6	44.8		50.4		56	
		200		110.3(11.25)	125.2	51.2		57.6		64	
		225		98.1(10.00)	141	57.6		64.8		72	
		250		88.3(9.00)	156.5	64		72		80	
		275		80.2(8.18)	172	70.4		79.2		88	
		300		73.5(7.50)	187.8	76.8		86.4		96	
		350		63.0(6.43)	228.9	89.6		100.8		112	
SIMM	70	70	38.5	372.2(38.0)	45.8	17.9	6664 (680.0)	20.2	7497 (764.5)	22.4	8330 (850.0)
		80		325.6(33.2)	52.3	20.5		23		25.6	
		90		289.9(29.6)	58.9	23		25.9		28.8	
		100		260.5(26.6)	65.4	25.6		28.8		32	
		125		208.4(21.3)	81.8	32		36		40	
		150		173.7(17.7)	98.1	38.4		43.2		48	
		175		148.9(15.2)	114.5	44.8		50.4		56	
		200		130.2(13.3)	130.8	51.2		57.6		64	
		250		104.2(10.6)	163.5	64		72		80	
		300		86.8(8.9)	196.2	76.8		86.4		96	
		350		74.4(7.6)	228.9	89.6		100.8		112	
				Cycle life		1 million		0.5 million		0.4 million	

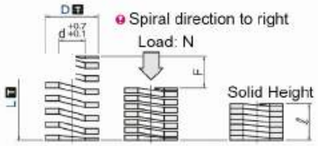
Simf

M Material	Color	Code
SWOSC-V	Green	SIMH

L	Tolerance
10- 50	±0.5
55-350	±1%

D	Tolerance
6-60	0 / -0.7
70	0 / -1.0

Content	Error
Load	±10%
Shape Angle	Below 2°



Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ m Solid Height	F=L×19.2% Fmm	Load N(kgf)	F=L×21.6% Fmm	Load N(kgf)	F=L×24% Fmm	Load N(kgf)
SIMH	6	15	3	38.1(3.89)	11	2.9	110 (11.2)	3.2	123 (12.6)	3.6	137 (14.0)
		20		28.8(2.92)	14.7	3.8		4.3		4.8	
		25		22.9(2.33)	18.4	4.8		5.4		6	
		30		19.1(1.94)	22	5.8		6.5		7.2	
		35		16.3(1.67)	25.7	6.7		7.6		8.4	
		40		14.3(1.46)	29.4	7.7		8.6		9.6	
		45		12.7(1.30)	33	8.6		9.7		10.8	
		50		11.4(1.17)	36.7	9.6		10.8		12	
		55		10.4(1.06)	40.4	10.6		11.9		13.2	
		60		9.5(0.97)	44	11.5		13		14.4	
SIMH	8	10	4	85.8(8.75)	7.4	1.9	165 (17.0)	2.2	185 (19.0)	2.4	206 (21.0)
		15		57.2(5.83)	10.8	2.9		3.2		3.6	
		20		42.9(4.38)	14.4	3.8		4.3		4.8	
		25		34.3(3.50)	18	4.8		5.4		6	
		30		28.6(2.92)	21.6	5.8		6.5		7.2	
		35		24.5(2.50)	25.2	6.7		7.5		8.4	
		40		21.5(2.19)	28.8	7.7		8.6		9.6	
		45		19.1(1.94)	32.4	8.6		9.7		10.8	
		50		17.2(1.75)	36	9.6		10.8		12	
		55		15.6(1.59)	39.6	10.6		11.8		13.2	
		60		14.3(1.46)	43.2	11.5		13		14.4	
		65		13.2(1.35)	47.7	12.5		14		15.6	
		70		12.3(1.25)	51.4	13.4		15.1		16.8	
		75		11.4(1.17)	55.1	14.4		16.2		18	
		80		10.7(1.09)	58.7	15.4		17.3		19.2	
SIMH	10	10	5	122.6(12.50)	7.4	1.9	235 (24.0)	2.2	265 (27.0)	2.4	294 (30.0)
		15		81.7(8.33)	11	2.9		3.2		3.6	
		20		61.3(6.25)	14.4	3.8		4.3		4.8	
		25		49.0(5.00)	18	4.8		5.4		6	
		30		40.9(4.17)	21.6	5.8		6.5		7.2	
		35		35.0(3.57)	25.2	6.7		7.5		8.4	
		40		30.6(3.13)	28.8	7.7		8.6		9.6	
		45		27.2(2.78)	32.4	8.6		9.7		10.8	
		50		24.5(2.50)	36	9.6		10.8		12	
		55		22.3(2.27)	39.6	10.6		11.8		13.2	
		60		20.4(2.08)	43.2	11.5		13		14.4	
		65		18.9(1.92)	46.8	12.5		14		15.6	
		70		17.5(1.79)	50.4	13.4		15.1		16.8	
		75		16.3(1.67)	54	14.4		16.2		18	
		80		15.3(1.56)	57.6	15.4		17.3		19.2	
		90		13.6(1.39)	64.8	17.3		19.4		21.6	
SIMH	12	15	6	117.1(11.94)	11	2.9	337 (34.4)	3.2	379 (38.7)	3.6	421 (43.0)
		20		87.9(8.96)	14.4	3.8		4.3		4.8	
		25		70.3(7.17)	18	4.8		5.4		6	
		30		58.6(5.97)	21.6	5.8		6.5		7.2	
		35		50.2(5.12)	25.2	6.7		7.5		8.4	
		40		43.9(4.48)	28.8	7.7		8.6		9.6	
		45		39.0(3.98)	32.4	8.6		9.7		10.8	
		50		35.1(3.58)	36	9.6		10.8		12	
		55		31.9(3.26)	39.6	10.6		11.8		13.2	
		60		29.3(2.99)	43.2	11.5		13		14.4	
		65		27.0(2.76)	46.8	12.5		14		15.6	
		70		25.1(2.56)	50.4	13.4		15.1		16.8	
		75		23.4(2.39)	54	14.4		16.2		18	
		80		22.0(2.24)	57.6	15.4		17.3		19.2	
		90		19.5(1.99)	64.8	17.3		19.4		21.6	
SIMH	14	20	7	120.5(12.29)	14.7	3.8	462 (47.0)	4.3	520 (53.0)	4.8	578 (59.0)
		25		96.4(9.83)	18	4.8		5.4		6	
		30		80.4(8.19)	21.6	5.8		6.5		7.2	
		35		68.9(7.02)	25.2	6.7		7.5		8.4	
		40		60.3(6.15)	28.8	7.7		8.6		9.6	
		45		53.6(5.46)	32.4	8.6		9.7		10.8	
		50		48.2(4.92)	36	9.6		10.8		12	
		55		43.8(4.47)	39.6	10.6		11.8		13.2	
		60		40.2(4.10)	43.2	11.5		13		14.4	
		65		37.1(3.78)	46.8	12.5		14		15.6	
		70		34.4(3.51)	50.4	13.4		15.1		16.8	
		75		32.1(3.28)	54	14.4		16.2		18	
		80		30.1(3.07)	57.6	15.4		17.3		19.2	
		90		26.8(2.73)	64.8	17.3		19.4		21.6	
		100		24.1(2.46)	72	19.2		21.6		24	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ m Solid Height	F=L×19.2% Fmm	Load N(kgf)	F=L×21.6% Fmm	Load N(kgf)	F=L×24% Fmm	Load N(kgf)
SIMH	16	20	8	157.3(16.04)	14.7	3.8	604 (61.6)	4.3	680 (69.3)	4.8	755 (77.0)
		25		125.9(12.83)	18	4.8		5.4		6	
		30		104.9(10.69)	21.6	5.8		6.5		7.2	
		35		89.9(9.17)	25.2	6.7		7.5		8.4	
		40		78.7(8.02)	28.8	7.7		8.6		9.6	
		45		69.9(7.13)	32.4	8.6		9.7		10.8	
		50		62.9(6.42)	36	9.6		10.8		12	
		55		57.2(5.83)	39.6	10.6		11.8		13.2	
		60		52.4(5.35)	43.2	11.5		13		14.4	
		65		48.4(4.94)	46.8	12.5		14		15.6	
		70		44.9(4.58)	50.4	13.4		15.1		16.8	
		75		42.0(4.28)	54	14.4		16.2		18	
		80		39.3(4.01)	57.6	15.4		17.3		19.2	
		90		35.0(3.56)	64.8	17.3		19.4		21.6	
		100		31.5(3.21)	72	19.2		21.6		24	
SIMH	18	20	9	198.2(20.21)	14.7	3.8	761 (77.6)	4.3	856 (87.3)	4.8	951 (97.0)
		25		158.5(16.17)	18	4.8		5.4		6	
		30		132.1(13.47)	21.6	5.8		6.5		7.2	
		35		113.2(11.55)	25.2	6.7		7.5		8.4	
		40		99.1(10.10)	28.8	7.7		8.6		9.6	
		45		88.1(8.98)	32.4	8.6		9.7		10.8	
		50		79.3(8.08)	36	9.6		10.8		12	
		55		72.1(7.35)	39.6	10.6		11.8		13.2	
		60		66.1(6.74)	43.2	11.5		13		14.4	
		65		61.0(6.22)	46.8	12.5		14		15.6	
		70		56.6(5.77)	50.4	13.4		15.1		16.8	
		75		52.8(5.39)	54	14.4		16.2		18	
		80		49.5(5.05)	57.6	15.4		17.3		19.2	
		90		44.0(4.49)	64.8	17.3		19.4		21.6	
		100		39.6(4.04)	72	19.2		21.6		24	
SIMH	20	20	10	245.2(25.00)	14.7	3.8	941 (96.0)	4.3	1058 (108.0)	4.8	1176 (120.0)
		25		196.1(20.00)	18	4.8		5.4		6	
		30		163.4(16.67)	21.6	5.8		6.5		7.2	
		35		140.1(14.29)	25.2	6.7		7.5		8.4	
		40		122.6(12.50)	28.8	7.7		8.6		9.6	
		45		109.0(11.11)	32.4	8.6		9.7		10.8	
		50		98.1(10.00)	36	9.6		10.8		12	
		55		89.2(9.09)	39.6	10.6		11.8		13.2	
		60		81.7(8.33)	43.2	11.5		13		14.4	
		65		75.4(7.69)	46.8	12.5		14		15.6	
		70		70.0(7.14)	50.4	13.4		15.1		16.8	
		75		65.4(6.67)	54	14.4		16.2		18	
		80		61.3(6.25)	57.6	15.4		17.3		19.2	
		90		54.5(5.56)	64.8	17.3		19.4		21.6	
		100		49.0(5.00)	72	19.2		21.6		24	
		125		39.2(4.00)	90	24		27		30	
		150		32.7(3.33)	108	28.8		32.4		36	
SIMH	22	25	11	237.0(24.17)	18	4.8	1137 (116.0)	5.4	1279 (130.5)	6	1421 (145.0)
		30		197.5(20.14)	21.6	5.8		6.5		7.2	
		35		169.3(17.26)	25.2	6.7		7.6		8.4	
		40		148.1(15.10)	28.8	7.7		8.6		9.6	
		45		131.7(13.43)	32.4	8.6		9.7		10.8	
		50		118.5(12.08)	36	9.6		10.8		12	
		55		107.7(10.98)	39.6	10.6		11.9		13.2	
		60		98.7(10.07)	43.2	11.5		13		14.4	
		65		91.2(9.29)	46.8	12.5		14		15.6	
		70		84.6(8.63)	50.4	13.4		15.1		16.8	
		75		79.0(8.06)	54	14.4		16.2		18	
		80		74.1(7.55)	57.6	15.4		17.3		19.2	
		90		65.8(6.71)	64.8	17.3		19.4		21.6	
		100		59.2(6.04)	72	19.2		21.6		24	
		125		47.4(4.83)	90	24		27		30	
		150		39.5(4.03)	108	28.8		32.4		36	
				Cycle life		1 million		0.5 million		0.3 million	

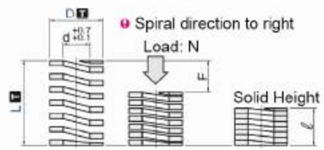
Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ m Solid Height	F=L×19.2% Fmm	Load N(kgf)	F=L×21.6% Fmm	Load N(kgf)	F=L×24% Fmm	Load N(kgf)
SIMH	25	25	12.5	305.6(31.17)	18	4.8	1466 (149.5)	5.4	1650 (168.3)	6	1833 (187.0)
		30		254.7(25.97)	21.6	5.8		6.5		7.2	
		35		218.3(22.26)	25.2	6.7		7.6		8.4	
		40		191.0(19.48)	28.8	7.7		8.6		9.6	
		45		169.8(17.31)	32.4	8.6		9.7		10.8	
		50		152.8(15.58)	36	9.6		10.8		12	
		55		138.9(14.17)	39.6	10.6		11.9		13.2	
		60		127.3(12.99)	43.2	11.5		13		14.4	
		65		117.6(11.99)	46.8	12.5		14		15.6	
		70		109.2(11.13)	50.4	13.4		15.1		16.8	
		75		101.9(10.39)	54	14.4		16.2		18	
		80		95.5(9.74)	57.6	15.4		17.3		19.2	
		90		84.9(8.66)	64.8	17.3		19.4		21.6	
		100		76.4(7.79)	72	19.2		21.6		24	
		125		61.1(6.23)	90	24		27		30	
		150		50.9(5.19)	108	28.8		32.4		36	
		175		43.7(4.45)	126	33.6		37.8		42	
SIMH	27	25	13.5	357.9(36.50)	18	4.8	1717 (175.0)	5.4	1931 (197.0)	6	2146 (219.0)
		30		298.3(30.42)	21.6	5.8		6.5		7.2	
		35		255.7(26.07)	25.2	6.7		7.6		8.4	
		40		223.7(22.81)	28.8	7.7		8.6		9.6	
		45		198.9(20.28)	32.4	8.6		9.7		10.8	
		50		179.0(18.25)	36	9.6		10.8		12	
		55		162.7(16.59)	39.6	10.6		11.9		13.2	
		60		149.1(15.21)	43.2	11.5		13		14.4	
		65		137.7(14.04)	46.8	12.5		14		15.6	
		70		127.8(13.04)	50.4	13.4		15.1		16.8	
		75		119.3(12.17)	54	14.4		16.2		18	
		80		111.9(11.41)	57.6	15.4		17.3		19.2	
		90		99.4(10.14)	64.8	17.3		19.4		21.6	
		100		89.5(9.13)	72	19.2		21.6		24	
		125		71.6(7.30)	90	24		27		30	
		150		59.7(6.08)	108	28.8		32.4		36	
		175		51.1(5.21)	126	33.6		37.8		42	
SIMH	30	25	15	441.3(45.00)	18	4.8	2117 (216.0)	5.4	2381 (243.0)	6	2646 (270.0)
		30		367.7(37.50)	21.6	5.8		6.5		7.2	
		35		315.2(32.14)	25.2	6.7		7.6		8.4	
		40		275.8(28.13)	28.8	7.7		8.6		9.6	
		45		245.2(25.00)	32.4	8.6		9.7		10.8	
		50		220.6(22.50)	36	9.6		10.8		12	
		55		200.6(20.45)	39.6	10.6		11.9		13.2	
		60		183.9(18.75)	43.2	11.5		13		14.4	
		65		169.7(17.31)	46.8	12.5		14		15.6	
		70		157.6(16.07)	50.4	13.4		15.1		16.8	
		75		147.1(15.00)	54	14.4		16.2		18	
		80		137.9(14.06)	57.6	15.4		17.3		19.2	
		90		122.6(12.50)	64.8	17.3		19.4		21.6	
		100		110.3(11.25)	72	19.2		21.6		24	
		125		88.3(9.00)	90	24		27		30	
		150		73.5(7.50)	108	28.8		32.4		36	
		175		63.0(6.43)	126	33.6		37.8		42	
		200		55.2(5.63)	144	38.4		43.2		48	
SIMH	35	40	17.5	374.9(38.23)	28.8	7.7	2878 (294.0)	8.6	3237 (330.0)	9.6	3597 (367.0)
		45		333.2(33.98)	32.4	8.6		9.7		10.8	
		50		299.9(30.58)	36	9.6		10.8		12	
		55		272.7(27.80)	39.6	10.6		11.9		13.2	
		60		249.9(25.49)	43.2	11.5		13		14.4	
		65		230.7(23.53)	46.8	12.5		14		15.6	
		70		214.2(21.85)	50.4	13.4		15.1		16.8	
		75		199.9(20.39)	54	14.4		16.2		18	
		80		187.4(19.11)	57.6	15.4		17.3		19.2	
		90		166.6(16.99)	64.8	17.3		19.4		21.6	
		100		150.0(15.29)	72	19.2		21.6		24	
		125		120.0(12.23)	90	24		27		30	
		150		100.0(10.19)	108	28.8		32.4		36	
		175		85.7(8.74)	126	33.6		37.8		42	
		200		75.0(7.65)	144	38.4		43.2		48	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ m Solid Height	F=L×19.2% Fmm	Load N(kgf)	F=L×21.6% Fmm	Load N(kgf)	F=L×24% Fmm	Load N(kgf)
SIMH	40	40	20	490.3(50.00)	28.8	7.7	3763 (384.0)	8.6	4234 (432.0)	9.6	4704 (480.0)
		45		435.8(44.44)	33	8.6		9.7		10.8	
		50		392.3(40.00)	36	9.6		10.8		12	
		55		356.6(36.36)	40.4	10.6		11.9		13.2	
		60		326.9(33.33)	43.2	11.5		13		14.4	
		65		301.7(30.77)	47.7	12.5		14		15.6	
		70		280.2(28.57)	50.4	13.4		15.1		16.8	
		75		261.5(26.67)	55.1	14.4		16.2		18	
		80		245.2(25.00)	57.6	15.4		17.3		19.2	
		90		217.9(22.22)	64.8	17.3		19.4		21.6	
		100		196.1(20.00)	72	19.2		21.6		24	
		125		156.9(16.00)	90	24		27		30	
		150		130.8(13.33)	108	28.8		32.4		36	
		175		112.1(11.43)	126	33.6		37.8		42	
		200		98.1(10.00)	144	38.4		43.2		48	
		225		87.2(8.89)	162	43.2		48.6		54	
		250		78.5(8.00)	180	48		54		60	
		275		71.3(7.27)	198	52.8		59.4		66	
		300		65.4(6.67)	220.2	57.6		64.8		72	
SIMH	50	50	25	612.9(62.50)	36	9.6	5880 (600.0)	10.8	6615 (675.0)	12	7350 (750.0)
		55		557.2(56.82)	39.6	10.6		11.9		13.2	
		60		510.8(52.08)	43.2	11.5		13		14.4	
		65		471.5(48.08)	46.8	12.5		14		15.6	
		70		437.8(44.64)	50.4	13.4		15.1		16.8	
		75		408.6(41.67)	54	14.4		16.2		18	
		80		383.1(39.06)	57.6	15.4		17.3		19.2	
		90		340.5(34.72)	64.8	17.3		19.4		21.6	
		100		306.5(31.25)	72	19.2		21.6		24	
		125		245.2(25.00)	90	24		27		30	
		150		204.3(20.83)	108	28.8		32.4		36	
		175		175.1(17.86)	126	33.6		37.8		42	
		200		153.2(15.63)	144	38.4		43.2		48	
		225		136.2(13.89)	162	43.2		48.6		54	
		250		122.6(12.50)	180	48		54		60	
		275		111.4(11.36)	198	52.8		59.4		66	
		300		102.2(10.42)	216	57.6		64.8		72	
		350		87.6(8.93)	256.9	67.2		75.6		84	
SIMH	60	60	30	735.5(75.00)	43.2	11.5	8467 (864.0)	13	9526 (971.0)	14.4	10584 (1080.0)
		70		630.4(64.29)	50.4	13.4		15.1		16.8	
		80		551.6(56.25)	57.6	15.4		17.3		19.2	
		90		490.3(50.00)	64.8	17.3		19.4		21.6	
		100		441.3(45.00)	72	19.2		21.6		24	
		125		353.0(36.00)	90	24		27		30	
		150		294.2(30.00)	108	28.8		32.4		36	
		175		252.2(25.71)	126	33.6		37.8		42	
		200		220.6(22.50)	144	38.4		43.2		48	
		225		196.1(20.00)	162	43.2		48.6		54	
		250		176.5(18.00)	180	48		54		60	
		275		160.5(16.36)	198	52.8		59.4		66	
		300		147.1(15.00)	216	57.6		64.8		72	
		350		126.1(12.86)	256.9	67.2		75.6		84	
SIMH	70	70	38.5	747.2(76.2)	51.4	13.4	10046 (1024.0)	15.1	11301 (1152.8)	16.8	12557 (1280.0)
		80		653.8(66.7)	58.7	15.4		17.3		19.2	
		90		581.1(59.3)	66.1	17.3		19.4		21.6	
		100		523.0(53.3)	72	19.2		21.6		24	
		125		418.4(42.7)	90	24		27		30	
		150		348.7(35.6)	108	28.8		32.4		36	
		175		298.9(30.5)	126	33.6		37.8		42	
		200		261.5(26.7)	144	38.4		43.2		48	
		250		209.2(21.3)	180	48		54		60	
		300		174.3(17.8)	216	57.6		64.8		72	
		350		149.4(15.2)	252	67.2		75.6		84	
				Cycle life		1 million		0.5 million		0.3 million	

Material	Color	Code
SWOSC-V	Brown	SIMB

L	Tolerance	D	Tolerance
10~50	±0.5	6~60	0 / -0.7
55~350	±1%	70	0 / -1.0

Content	Error
Load	±10%
Shape Angle	Below 2°



Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ mm Solid Height	F=L×16% F mm	F=L×16% Load N(kgf)	F=L×18% F mm	F=L×18% Load N(kgf)	F=L×20% F mm	F=L×20% Load N(kgf)
SIMB	6	15	3	58.8(6.00)	11.6	2.4	142 (14.5)	2.7	159 (16.2)	3	177 (18.0)
		20		44.1(4.50)	15.5	3.2		3.6		4	
		25		35.3(3.60)	19.4	4		4.5		5	
		30		29.4(3.00)	23.2	4.8		5.4		6	
		35		25.2(2.57)	27.1	5.6		6.3		7	
		40		22.1(2.25)	31	6.4		7.2		8	
		45		19.6(2.00)	34.8	7.2		8.1		9	
		50		17.7(1.80)	38.7	8		9		10	
		55		16.0(1.64)	42.6	8.8		9.9		11	
		60		14.7(1.50)	46.4	9.6		10.8		12	
SIMB	8	10	4	161.8(16.50)	7.7	1.6	258 (26.3)	1.8	291 (29.7)	2	323 (33.0)
		15		107.9(11.00)	11.6	2.4		2.7		3	
		20		80.9(8.25)	15.9	3.2		3.6		4	
		25		64.7(6.60)	19.4	4		4.5		5	
		30		53.9(5.50)	23.2	4.8		5.4		6	
		35		46.2(4.71)	27.1	5.6		6.3		7	
		40		40.5(4.13)	31	6.4		7.2		8	
		45		36.0(3.67)	34.8	7.2		8.1		9	
		50		32.4(3.30)	38.7	8		9		10	
		55		29.4(3.00)	42.6	8.8		9.9		11	
		60		27.0(2.75)	46.4	9.6		10.8		12	
		65		24.9(2.54)	50.3	10.4		11.7		13	
		70		23.1(2.36)	54.2	11.2		12.6		14	
		75		21.6(2.20)	58.1	12		13.5		15	
		80		20.2(2.06)	61.9	12.8		14.4		16	
SIMB	10	10	5	220.6(22.50)	7.7	1.6	353 (36.0)	1.8	397 (40.5)	2	441 (45.0)
		15		147.1(15.00)	11.6	2.4		2.7		3	
		20		110.3(11.25)	15.5	3.2		3.6		4	
		25		88.3(9.00)	19.4	4		4.5		5	
		30		73.5(7.50)	23.2	4.8		5.4		6	
		35		63.0(6.43)	27.1	5.6		6.3		7	
		40		55.2(5.63)	31	6.4		7.2		8	
		45		49.0(5.00)	34.8	7.2		8.1		9	
		50		44.1(4.50)	38.7	8		9		10	
		55		40.1(4.09)	42.6	8.8		9.9		11	
		60		36.8(3.75)	46.4	9.6		10.8		12	
		65		33.9(3.46)	50.3	10.4		11.7		13	
		70		31.5(3.21)	54.2	11.2		12.6		14	
		75		29.4(3.00)	58.1	12		13.5		15	
		80		27.6(2.81)	61.9	12.8		14.4		16	
		90		24.5(2.50)	69.7	14.4		16.2		18	
SIMB	12	15	6	189.6(19.33)	11.6	2.4	455 (46.4)	2.7	512 (52.2)	3	569 (58.0)
		20		142.2(14.50)	15.5	3.2		3.6		4	
		25		113.8(11.60)	19.4	4		4.5		5	
		30		94.8(9.67)	23.2	4.8		5.4		6	
		35		81.3(8.29)	27.1	5.6		6.3		7	
		40		71.1(7.25)	31	6.4		7.2		8	
		45		63.2(6.44)	34.8	7.2		8.1		9	
		50		56.9(5.80)	38.7	8		9		10	
		55		51.7(5.27)	42.6	8.8		9.9		11	
		60		47.4(4.83)	46.4	9.6		10.8		12	
		65		43.8(4.46)	50.3	10.4		11.7		13	
		70		40.6(4.14)	54.2	11.2		12.6		14	
		75		37.9(3.87)	58.1	12		13.5		15	
		80		35.5(3.63)	61.9	12.8		14.4		16	
		90		31.6(3.22)	69.7	14.4		16.2		18	
SIMB	14	20	7	183.9(18.75)	15.5	3.2	589 (60.0)	3.6	662 (67.5)	4	736 (75.0)
		25		147.1(15.00)	19.4	4		4.5		5	
		30		122.6(12.50)	23.2	4.8		5.4		6	
		35		105.1(10.71)	27.1	5.6		6.3		7	
		40		91.9(9.38)	31	6.4		7.2		8	
		45		81.7(8.33)	34.8	7.2		8.1		9	
		50		73.5(7.50)	38.7	8		9		10	
		55		66.9(6.82)	42.6	8.8		9.9		11	
		60		61.3(6.25)	46.4	9.6		10.8		12	
		65		56.6(5.77)	50.3	10.4		11.7		13	
		70		52.5(5.36)	54.2	11.2		12.6		14	
		75		49.0(5.00)	58.1	12		13.5		15	
		80		46.0(4.69)	61.9	12.8		14.4		16	
		90		40.9(4.17)	69.7	14.4		16.2		18	
		100		36.8(3.75)	77.4	16		18		20	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ mm Solid Height	F=L×16% F mm	F=L×16% Load N(kgf)	F=L×18% F mm	F=L×18% Load N(kgf)	F=L×20% F mm	F=L×20% Load N(kgf)
SIMB	16	20	8	245.2(25.00)	15.5	3.2	784 (80.0)	3.6	882 (90.0)	4	980 (100.0)
		25		196.1(20.00)	19.4	4		4.5		5	
		30		163.4(16.67)	23.2	4.8		5.4		6	
		35		140.1(14.29)	27.1	5.6		6.3		7	
		40		122.6(12.50)	31	6.4		7.2		8	
		45		109.0(11.11)	34.8	7.2		8.1		9	
		50		98.1(10.00)	38.7	8		9		10	
		55		89.2(9.09)	42.6	8.8		9.9		11	
		60		81.7(8.33)	46.4	9.6		10.8		12	
		65		75.4(7.69)	50.3	10.4		11.7		13	
		70		70.0(7.14)	54.2	11.2		12.6		14	
		75		65.4(6.67)	58.1	12		13.5		15	
		80		61.3(6.25)	61.9	12.8		14.4		16	
		90		54.5(5.56)	69.7	14.4		16.2		18	
		100		49.0(5.00)	77.4	16		18		20	
SIMB	18	20	9	306.5(31.25)	15.5	3.2	980 (100.0)	3.6	1103 (112.5)	4	1225 (125.0)
		25		245.2(25.00)	19.4	4		4.5		5	
		30		204.3(20.83)	23.2	4.8		5.4		6	
		35		175.1(17.86)	27.1	5.6		6.3		7	
		40		153.2(15.63)	31	6.4		7.2		8	
		45		136.2(13.89)	34.8	7.2		8.1		9	
		50		122.6(12.50)	38.7	8		9		10	
		55		111.4(11.36)	42.6	8.8		9.9		11	
		60		102.2(10.42)	46.4	9.6		10.8		12	
		65		94.3(9.62)	50.3	10.4		11.7		13	
		70		87.6(8.93)	54.2	11.2		12.6		14	
		75		81.7(8.33)	58.1	12		13.5		15	
		80		76.6(7.81)	61.9	12.8		14.4		16	
		90		68.1(6.94)	69.7	14.4		16.2		18	
		100		61.3(6.25)	77.4	16		18		20	
SIMB	20	20	10	392.3(40.00)	15.5	3.2	1254 (128.0)	3.6	1411 (144.0)	4	1568 (160.0)
		25		313.8(32.00)	19.4	4		4.5		5	
		30		261.5(26.67)	23.2	4.8		5.4		6	
		35		224.2(22.86)	27.1	5.6		6.3		7	
		40		196.1(20.00)	31	6.4		7.2		8	
		45		174.3(17.78)	34.8	7.2		8.1		9	
		50		156.9(16.00)	38.7	8		9		10	
		55		142.6(14.55)	42.6	8.8		9.9		11	
		60		130.8(13.33)	46.4	9.6		10.8		12	
		65		120.7(12.31)	50.3	10.4		11.7		13	
		70		112.1(11.43)	54.2	11.2		12.6		14	
		75		104.6(10.67)	58.1	12		13.5		15	
		80		98.1(10.00)	61.9	12.8		14.4		16	
		90		87.2(8.89)	69.7	14.4		16.2		18	
		100		78.5(8.00)	77.4	16		18		20	
		125		62.8(6.40)	96.8	20		22.5		25	
		150		52.3(5.33)	116.1	24		27		30	
SIMB	22	25	11	382.5(39.00)	19.4	4	1530 (156.0)	4.5	1721 (175.5)	5	1912 (195.0)
		30		318.7(32.50)	23.2	4.8		5.4		6	
		35		273.2(27.86)	27.1	5.6		6.3		7	
		40		239.0(24.38)	31	6.4		7.2		8	
		45		212.5(21.67)	34.8	7.2		8.1		9	
		50		191.2(19.50)	38.7	8		9		10	
		55		173.8(17.73)	42.6	8.8		9.9		11	
		60		159.4(16.25)	46.4	9.6		10.8		12	
		65		147.1(15.00)	50.3	10.4		11.7		13	
		70		136.6(13.93)	54.2	11.2		12.6		14	
		75		127.5(13.00)	58.1	12		13.5		15	
		80		119.5(12.19)	61.9	12.8		14.4		16	
		90		106.2(10.83)	69.7	14.4		16.2		18	
		100		95.6(9.75)	77.4	16		18		20	
		125		76.5(7.80)	96.8	20		22.5		25	
		150		63.7(6.50)	116.1	24		27		30	
				Cycle life		1 million		0.5 million		0.3 million	

Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ mm Solid Height	F=L×16% F mm	F=L×16% Load N(kgf)	F=L×18% F mm	F=L×18% Load N(kgf)	F=L×20% F mm	F=L×20% Load N(kgf)
SIMB	25	25	12.5	480.5(49.00)	19	4	1922 (196.0)	4.5	2162 (220.5)	5	2403 (245.0)
		30		400.4(40.83)	22.8	4.8		5.4		6	
		35		343.2(35.00)	26.6	5.6		6.3		7	
		40		300.3(30.63)	30.4	6.4		7.2		8	
		45		267.0(27.22)	34.2	7.2		8.1		9	
		50		240.3(24.50)	38	8		9		10	
		55		218.4(22.27)	41.8	8.8		9.9		11	
		60		200.2(20.42)	45.6	9.6		10.8		12	
		65		184.8(18.85)	49.4	10.4		11.7		13	
		70		171.6(17.50)	53.2	11.2		12.6		14	
		75		160.2(16.33)	57	12		13.5		15	
		80		150.2(15.31)	60.8	12.8		14.4		16	
		90		133.5(13.61)	68.4	14.4		16.2		18	
		100		120.1(12.25)	76	16		18		20	
		125		96.1(9.80)	95	20		22.5		25	
		150		80.1(8.17)	114	24		27		30	
		175		68.6(7.00)	133	28		31.5		35	
SIMB	27	25	13.5	568.8(58.00)	19	4	2275 (232.0)	4.5	2560 (261.0)	5	2844 (290.0)
		30		474.0(48.33)	22.8	4.8		5.4		6	
		35		406.3(41.43)	26.6	5.6		6.3		7	
		40		355.5(36.25)	30.4	6.4		7.2		8	
		45		316.0(32.22)	34.2	7.2		8.1		9	
		50		284.4(29.00)	38	8		9		10	
		55		258.5(26.36)	41.8	8.8		9.9		11	
		60		237.0(24.17)	45.6	9.6		10.8		12	
		65		218.8(22.31)	49.4	10.4		11.7		13	
		70		203.1(20.71)	53.2	11.2		12.6		14	
		75		189.6(19.33)	57	12		13.5		15	
		80		177.7(18.13)	60.8	12.8		14.4		16	
		90		158.0(16.11)	68.4	14.4		16.2		18	
		100		142.2(14.50)	76	16		18		20	
		125		113.8(11.60)	95	20		22.5		25	
		150		94.8(9.67)	114	24		27		30	
		175		81.3(8.29)	133	28		31.5		35	
SIMB	30	25	15	706.1(72.00)	19	4	2824 (288.0)	4.5	3177 (324.0)	5	3530 (360.0)
		30		588.4(60.00)	22.8	4.8		5.4		6	
		35		504.3(51.43)	26.6	5.6		6.3		7	
		40		441.3(45.00)	30.4	6.4		7.2		8	
		45		392.3(40.00)	34.2	7.2		8.1		9	
		50		353.0(36.00)	38	8		9		10	
		55		320.9(32.73)	41.8	8.8		9.9		11	
		60		294.2(30.00)	45.6	9.6		10.8		12	
		65		271.6(27.69)	49.4	10.4		11.7		13	
		70		252.2(25.71)	53.2	11.2		12.6		14	
		75		235.4(24.00)	57	12		13.5		15	
		80		220.6(22.50)	60.8	12.8		14.4		16	
		90		196.1(20.00)	68.4	14.4		16.2		18	
		100		176.5(18.00)	76	16		18		20	
		125		141.2(14.40)	95	20		22.5		25	
		150		117.7(12.00)	114	24		27		30	
		175		100.9(10.29)	133	28		31.5		35	
		200		88.3(9.00)	152	32		36		40	
SIMB	35	40	17.5	600.3(61.25)	31	6.4	3842 (392.0)	7.2	4322 (441.0)	8	4802 (490.0)
		45		533.6(54.44)	34.8	7.2		8.1		9	
		50		480.2(49.00)	38.7	8		9		10	
		55		436.5(44.55)	42.6	8.8		9.9		11	
		60		400.2(40.83)	46.4	9.6		10.8		12	
		65		369.4(37.69)	50.3	10.4		11.7		13	
		70		343.0(35.00)	54.2	11.2		12.6		14	
		75		320.1(32.67)	58.1	12		13.5		15	
		80		300.1(30.63)	61.9	12.8		14.4		16	
		90		266.8(27.22)	69.7	14.4		16.2		18	
		100		240.1(24.50)	77.4	16		18		20	
		125		192.1(19.60)	96.8	20		22.5		25	
		150		160.1(16.33)	116.1	24		27		30	
		175		137.2(14.00)	135.5	28		31.5		35	
		200		120.1(12.25)	154.8	32		36		40	
				Cycle life		1 million		0.5 million		0.3 million	

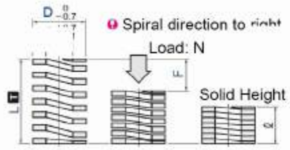
Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ mm Solid Height	F=L×16% F mm	F=L×16% Load N(kgf)	F=L×18% F mm	F=L×18% Load N(kgf)	F=L×20% F mm	F=L×20% Load N(kgf)
SIMB	40	40	20	784.5(80.00)	31	6.4	5022 (512.0)	7.2	5650 (576.0)	8	6278 (640.0)
		45		697.4(71.11)	34.8	7.2		8.1		9	
		50		627.6(64.00)	38.7	8		9		10	
		55		570.6(58.18)	42.6	8.8		9.9		11	
		60		523.0(53.33)	46.4	9.6		10.8		12	
		65		482.8(49.23)	50.3	10.4		11.7		13	
		70		448.3(45.71)	54.2	11.2		12.6		14	
		75		418.4(42.67)	58.1	12		13.5		15	
		80		392.3(40.00)	61.9	12.8		14.4		16	
		90		348.7(35.56)	69.7	14.4		16.2		18	
		100		313.8(32.00)	77.4	16		18		20	
		125		251.0(25.60)	96.8	20		22.5		25	
		150		209.2(21.33)	116.1	24		27		30	
		175		179.3(18.29)	135.5	28		31.5		35	
		200		156.9(16.00)	154.8	32		36		40	
		225		139.5(14.22)	174.2	36		40.5		45	
		250		125.5(12.80)	193.5	40		45		50	
		275		114.1(11.64)	212.9	44		49.5		55	
		300		104.6(10.67)	232.2	48		54		60	
SIMB	50	50	25	980.7(100.00)	38.7	8	7845 (800.0)	9	8830 (900.0)	10	9800 (1000.0)
		55		891.5(90.91)	42.6	8.8		9.9		11	
		60		817.2(83.33)	46.4	9.6		10.8		12	
		65		754.4(76.92)	50.3	10.4		11.7		13	
		70		700.5(71.43)	54.2	11.2		12.6		14	
		75		653.8(66.67)	58.1	12		13.5		15	
		80		612.9(62.50)	61.9	12.8		14.4		16	
		90		544.8(55.56)	69.7	14.4		16.2		18	
		100		490.3(50.00)	77.4	16		18		20	
		125		392.3(40.00)	96.8	20		22.5		25	
		150		326.9(33.33)	116.1	24		27		30	
		175		280.2(28.57)	135.5	28		31.5		35	
		200		245.2(25.00)	154.8	32		36		40	
		225		217.9(22.22)	174.2	36		40.5		45	
		250		196.1(20.00)	193.5	40		45		50	
		275		178.3(18.18)	212.9	44		49.5		55	
		300		163.4(16.67)	232.2	48		54		60	
		350		140.1(14.29)	270.9	56		63		70	
SIMB	60	60	30	1,176.8(120.00)	46.4	9.6	11296 (1152.0)	10.8	12710 (1296.0)	12	14122 (1440.0)
		70		1,008.7(102.86)	53.2	11.2		12.6		14	
		80		882.6(90.00)	61.9	12.8		14.4		16	
		90		784.5(80.00)	69.7	14.4		16.2		18	
		100		706.1(72.00)	77.4	16		18		20	
		125		564.9(57.60)	96.8	20		22.5		25	
		150		470.7(48.00)	116.1	24		27		30	
		175		403.5(41.14)	135.5	28		31.5		35	
		200		353.0(36.00)	154.8	32		36		40	
		225		313.8(32.00)	174.2	36		40.5		45	
		250		282.4(28.80)	193.5	40		45		50	
		275		256.8(26.18)	212.9	44		49.5		55	
		300		235.4(24.00)	232.2	48		54		60	
		350		201.7(20.57)	270.9	56		63		70	
SIMB	70	70	38.5	1,218.8(124.3)	54.2	11.2	13655 (1392.0)	12.6	15362 (1566.0)	14	17064 (1740.0)
		80		1,066.5(108.8)	61.9	12.8		14.4		16	
		90		948.0(96.7)	69.7	14.4		16.2		18	
		100		853.2(87.0)	77.4	16		18		20	
		125		682.5(69.6)	96.8	20		22.5		25	
		150		568.8(58.0)	116.1	24		27		30	
		175		487.5(49.7)	135.5	28		31.5		35	
		200		426.6(43.5)	154.8	32		36		40	
		250		341.3(34.8)	193.5	40		45		50	
		300		284.4(29.0)	232.2	48		54		60	
		350		243.8(24.9)	270.9	56		63		70	
				Cycle life		1 million		0.5 million		0.3 million	

Simf

Material	Color	Code
SWOSC-V	Black	SIMG

L	Tolerance
15~ 50	±0.5
55~350	±1%

Content	Error
Load	±10%
Shape Angle	Below 2°



Code No. Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid Height	F=L×16% Fmm	F=L×16% Load N(kgf)	F=L×18% Fmm	F=L×18% Load N(kgf)	F=L×20% Fmm	F=L×20% Load N(kgf)
		15		163(16.7)	11.4	2.4		2.7		Out of bounds	
		20		123(12.5)	15	3.2		3.6		4	
		25		96(10.0)	19	4		4.5		5	
		30		82(8.3)	22.8	4.8		5.4		6	
		35		70(7.1)	26.6	5.6		6.3		7	
		40		61(6.3)	30.4	6.4		7.2		8	
		45		54(5.6)	34.2	7.2		8.1		9	
		50		49(5.0)	38	8	392 (40.0)	9	441 (45.0)	10	
	10	55	5	45(4.5)	41.8	8.8		9.9		11	490 (50.0)
		60		41(4.2)	45.6	9.6		10.8		12	
		65		38(3.8)	49.4	10.4		11.7		13	
		70		35(3.6)	53.2	11.2		12.6		14	
		75		33(3.3)	57	12		13.5		15	
		80		31(3.1)	60.8	12.8		14.4		16	
		90		27(2.8)	68.4	14.4		16.2		18	
		100		25(2.5)	76	16		18		20	
		15		245(25.0)	11.4	2.4		2.7		Out of bounds	
		20		184(18.8)	15	3.2		3.6		4	
		25		147(15.0)	19	4		4.5		5	
		30		123(12.5)	22.8	4.8		5.4		6	
		35		105(10.7)	26.6	5.6		6.3		7	
		40		92(9.4)	30.4	6.4		7.2		8	
		45		82(8.3)	34.2	7.2		8.1		9	
		50		74(7.5)	38	8	588 (60.0)	9	662 (67.5)	10	
	12	55	6	67(6.8)	41.8	8.8		9.9		11	735 (75.0)
		60		61(6.3)	45.6	9.6		10.8		12	
		65		57(5.8)	49.4	10.4		11.7		13	
		70		53(5.4)	53.2	11.2		12.6		14	
		75		49(5.0)	57	12		13.5		15	
		80		46(4.7)	60.8	12.8		14.4		16	
		90		41(4.2)	68.4	14.4		16.2		18	
		100		37(3.8)	76	16		18		20	
		20		238(24.3)	15.2	3.2		3.6		Out of bounds	
		25		190(19.4)	19	4		4.5		5	
		30		159(16.2)	22.8	4.8		5.4		6	
		35		136(13.9)	26.6	5.6		6.3		7	
		40		119(12.1)	30.4	6.4		7.2		8	
		45		106(10.8)	34.2	7.2		8.1		9	
		50		95(9.7)	38	8	761 (77.6)	9	856 (87.3)	10	
	14	55	7	86(8.8)	41.8	8.8		9.9		11	951 (97.0)
		60		79(8.1)	45.6	9.6		10.8		12	
		65		73(7.5)	49.4	10.4		11.7		13	
		70		68(6.9)	53.2	11.2		12.6		14	
		75		63(6.5)	57	12		13.5		15	
		80		59(6.1)	60.8	12.8		14.4		16	
		90		53(5.4)	68.4	14.4		16.2		18	
		100		48(4.9)	76	16		18		20	
		20		318(32.5)	15.2	3.2		3.6		Out of bounds	
		25		255(26.0)	19	4		4.5		5	
		30		212(21.7)	22.8	4.8		5.4		6	
		35		182(18.6)	26.6	5.6		6.3		7	
		40		159(16.2)	30.4	6.4		7.2		8	
		45		142(14.4)	34.2	7.2		8.1		9	
		50		127(13.0)	38	8	1020 (104.0)	9	1147 (117.0)	10	
	16	55	8	116(11.8)	41.8	8.8		9.9		11	1275 (130.0)
		60		106(10.8)	45.6	9.6		10.8		12	
		65		96(10.0)	49.4	10.4		11.7		13	
		70		91(9.3)	53.2	11.2		12.6		14	
		75		85(8.7)	57	12		13.5		15	
		80		80(8.1)	60.8	12.8		14.4		16	
		90		71(7.2)	68.4	14.4		16.2		18	
		100		64(6.5)	76	16		18		20	
				Cycle life		1 million		0.5 million		0.3 million	

Code No. Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid Height	F=L×16% Fmm	F=L×16% Load N(kgf)	F=L×18% Fmm	F=L×18% Load N(kgf)	F=L×20% Fmm	F=L×20% Load N(kgf)
		20		392(40.0)	15.2	3.2		3.6		Out of bounds	
		25		314(32.0)	19	4		4.5		5	
		30		261(26.7)	22.8	4.8		5.4		6	
		35		224(22.8)	26.6	5.6		6.3		7	
		40		196(20.0)	30.4	6.4		7.2		8	
		45		174(17.8)	34.2	7.2		8.1		9	
		50		157(16.0)	38	8	1255 (128.0)	9	1412 (144.0)	10	
	18	55	9	143(14.5)	41.8	8.8		9.9		11	1569 (160.0)
		60		131(13.3)	45.6	9.6		10.8		12	
		65		121(12.3)	49.4	10.4		11.7		13	
		70		112(11.4)	53.2	11.2		12.6		14	
		75		106(10.7)	57	12		13.5		15	
		80		98(10.0)	60.8	12.8		14.4		16	
		90		87(8.9)	68.4	14.4		16.2		18	
		100		78(8.0)	76	16		18		20	
		20		514(52.5)	15.2	3.2		3.6		Out of bounds	
		25		412(42.0)	19	4		4.5		5	
		30		343(35.0)	22.8	4.8		5.4		6	
		35		294(30.0)	26.6	5.6		6.3		7	
		40		257(26.2)	30.4	6.4		7.2		8	
		45		229(23.3)	34.2	7.2		8.1		9	
		50		206(21.0)	38	8		9		10	
		55		187(19.1)	41.8	8.8	1648 (168.0)	9.9	1853 (189.0)	11	
	20	60	10	171(17.5)	45.6	9.6		10.8		12	2059 (210.0)
		65		158(16.1)	49.4	10.4		11.7		13	
		70		147(15.0)	53.2	11.2		12.6		14	
		75		137(14.0)	57	12		13.5		15	
		80		129(13.1)	60.8	12.8		14.4		16	
		90		114(11.7)	68.4	14.4		16.2		18	
		100		103(10.5)	76	16		18		20	
		125		82(8.4)	95	20		22.5		25	
		20		588(60.0)	15.2	3.2		3.6		Out of bounds	
		25		471(48.0)	19	4		4.5		5	
		30		392(40.0)	22.8	4.8		5.4		6	
		35		336(34.3)	26.6	5.6		6.3		7	
		40		294(30.0)	30.4	6.4		7.2		8	
		45		261(26.7)	34.2	7.2		8.1		9	
		50		235(24.0)	38	8		9		10	
		55		214(21.8)	41.8	8.8	1883 (192.0)	9.9	2118 (216.0)	11	
	22	60	11	196(20.0)	45.6	9.6		10.8		12	2354 (240.0)
		65		181(18.5)	49.4	10.4		11.7		13	
		70		168(17.1)	53.2	11.2		12.6		14	
		75		157(16.0)	57	12		13.5		15	
		80		147(15.0)	60.8	12.8		14.4		16	
		90		131(13.3)	68.4	14.4		16.2		18	
		100		118(12.0)	76	16		18		20	
		125		94(9.6)	95	20		22.5		25	
		20		759(77.5)	15.2	3.2		3.6		Out of bounds	
		25		608(62.0)	19	4		4.5		5	
		30		506(51.7)	22.8	4.8		5.4		6	
		35		434(44.3)	26.6	5.6		6.3		7	
		40		380(38.7)	30.4	6.4		7.2		8	
		45		338(34.4)	34.2	7.2		8.1		9	
		50		304(31.0)	38	8		9		10	
		55		276(28.2)	41.8	8.8	2432 (248.0)	9.9	2736 (279.0)	11	
	25	60	12.5	253(25.8)	45.6	9.6		10.8		12	3040 (310.0)
		65		234(23.8)	49.4	10.4		11.7		13	
		70		217(22.1)	53.2	11.2		12.6		14	
		75		203(20.7)	57	12		13.5		15	
		80		190(19.4)	60.8	12.8		14.4		16	
		90		169(17.2)	68.4	14.4		16.2		18	
		100		152(15.5)	76	16		18		20	
		125		122(12.4)	95	20		22.5		25	
				Cycle life		1 million		0.5 million		0.3 million	

Code No. Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid Height	F=L×16% Fmm	F=L×16% Load N(kgf)	F=L×18% Fmm	F=L×18% Load N(kgf)	F=L×20% Fmm	F=L×20% Load N(kgf)
		20		907(92.5)	15.2	3.2		3.6		Out of bounds	
		25		725(74.0)	19	4		4.5		5	
		30		604(61.7)	22.8	4.8		5.4		6	
		35		518(52.9)	26.6	5.6		6.3		7	
		40		453(46.3)	30.4	6.4		7.2		8	
		45		403(41.1)	34.2	7.2		8.1		9	
		50		363(37.0)	38	8		9		10	
		55		330(33.6)	41.8	8.8	2903 (296.0)	9.9	3266 (333.0)	11	
	27	60	13.5	302(30.8)	45.6	9.6		10.8		12	3628 (370.0)
		65		279(28.5)	49.4	10.4		11.7		13	
		70		259(26.4)	53.2	11.2		12.6		14	
		75		242(24.7)	57	12		13.5		15	
		80		227(23.1)	60.8	12.8		14.4		16	
		90		201(20.6)	68.4	14.4		16.2		18	
		100		181(18.5)	76	16		18		20	
		125		145(14.8)	95	20		22.5		25	
		150		121(12.3)	114	24		27		30	
		20		1176(120.0)	15.2	3.2		3.6		Out of bounds	
		25		941(96.0)	19	4		4.5		5	
		30		784(80.0)	22.8	4.8		5.4		6	
		35		672(68.6)	26.6	5.6		6.3		7	
		40		588(60.0)	30.4	6.4		7.2		8	
		45		523(53.3)	34.2	7.2		8.1		9	
		50		470(48.0)	38	8		9		10	
		55		428(43.6)	41.8	8.8		9.9		11	
		60		392(40.0)	45.6	9.6	3766 (384.0)	10.8	4238 (432.0)	12	
	30	65	15	362(36.9)	49.4	10.4		11.7		13	4707 (480.0)
		70		336(34.3)	53.2	11.2		12.6		14	
		75		314(32.0)	57	12		13.5		15	
		80		294(30.0)	60.8	12.8		14.4		16	
		90		261(26.7)	68.4	14.4		16.2		18	
		100		235(24.0)	76	16		18		20	
		125		188(19.2)	95	20		22.5		25	
		150		157(16.0)	114	24		27		30	
		175		134(13.7)	133	28		31.5		35	
		200		118(12.0)	152	32		36		40	
		30		1029(105.0)	22.8	4.8		5.4		6	
		35		882(90.0)	26.6	5.6		6.3		7	
		40		772(78.7)	30.4	6.4		7.2		8	
		45		686(70.0)	34.2	7.2		8.1		9	
		50		617(63.0)	38	8		9		10	
		55		561(57.3)	41.8	8.8		9.9		11	
		60		514(52.5)	45.6	9.6		10.8		12	
		65		475(48.5)	49.4	10.4	4943 (504.0)	11.7	5560 (567.0)	13	
	35	70	17.5	441(45.0)	53.2	11.2		12.6		14	6178 (630.0)
		75		412(42.0)	57	12		13.5		15	
		80		386(39.4)	60.8	12.8		14.4		16	
		90		343(35.0)	68.4	14.4		16.2		18	
		100		309(31.5)	76	16		18		20	
		125		247(25.2)	95	20		22.5		25	
		150		206(21.0)	114	24		27		30	
		175		176(18.0)	133	28		31.5		35	
		200		154(15.7)	152	32		36		40	
				Cycle life		1 million		0.5 million		0.3 million	

Code No. Code	D	L	d	Spring rate N/mm(kgf/mm)	ℓ min. Solid Height	F=L×16% Fmm	F=L×16% Load N(kgf)	F=L×18% Fmm	F=L×18% Load N(kgf)	F=L×20% Fmm	F=L×20% Load N(kgf)
		35		1148(117.1)	26.6	5.6		6.3		7	
		40		1005(102.5)	30.4	6.4		7.2		8	
		45		893(91.1)	34.2	7.2		8.1		9	
		50		804(82.0)	38	8		9		10	
		55		731(74.5)	41.8	8.8		9.9		11	
		60		670(68.3)	45.6	9.6		10.8		12	
		65		618(63.1)	49.4	10.4		11.7		13	
		70		574(58.6)	53.2	11.2	6433 (656.0)	12.6	7237 (738.0)	14	8041 (820.0)
	40	75	20	536(54.7)	57	12		13.5		15	
		80		502(51.3)	60.8	12.8		14.4		16	
		90		446(45.6)	68.4	14.4		16.2		18	
		100		402(41.0)	76	16		18		20	
		125		321(32.8)	95	20		22.5		25	
		150		268(27.3)	114	24		27		30	
		175		230(23.4)	133	28		31.5		35	
		200		201(20.5)	152	32		36		40	
		50		1225(125.0)	39	8		9		10	
		55		1114(113.6)	43	8.8		9.9		11	
		60		1021(104.2)	47	9.6		10.8		12	
		65		942(96.2)	51	10.4		11.7		13	
		70		875(89.3)	54	11.2		12.6		14	
		75		817(83.3)	58	12		13.5		15	
	50	80	25	766(78.1)	61	12.8	9807 (1000.0)	14.4	11032 (1125.0)	16	12258 (1250.0)
		90		681(69.4)	66	14.4		16.2		18	
		100		613(62.5)	74	16		18		20	
		125		490(50.0)	89	20		22.5		25	
		150		408(41.7)	105	24		27		30	
		175		350(35.7)	133	28		31.5		35	
		200		306(31.3)	152	32		36		40	
				Cycle life		1 million		0.5 million		0.3 million	

The method of load calculation:Load=Spring rate x compression

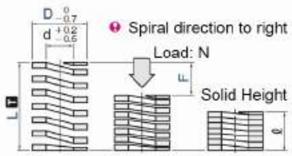
N=N/mm x Fmm(kgf=N x 0.101972)

Soild height is the reference

Material	Color	Code
SWOSC-V	No (-)	SIMX

L	Tolerance
25~ 50	±0.5
55~350	±1%

Content	Error
Load	±10%
Shape Angle	Below 2°



Code No. Code	D	L	d	Spring Rate N/mm(kgf/mm)	ℓ min. Solid Height	F=L×10% Fmm	Load N(kgf)
SIMX	20	25	9.5	510(52.0)	20	2.5	1274.9 (130.0)
		30		425(43.3)	24	3	
		35		364(37.1)	28	3.5	
		40		319(32.5)	32	4	
		45		283(28.9)	36	4.5	
		50		255(26.0)	40	5	
		55		232(23.6)	44	5.5	
		60		212(21.7)	48	6	
SIMX	22	25	10.5	628(64.0)	20	2.5	1569.1 (160.0)
		30		523(53.3)	24	3	
		35		448(45.7)	28	3.5	
		40		392(40.0)	32	4	
		45		349(35.6)	36	4.5	
		50		314(32.0)	40	5	
		55		285(29.1)	44	5.5	
		60		262(26.7)	48	6	
SIMX	25	25	12	785(80.0)	20	2.5	1961.3 (200.0)
		30		654(66.7)	24	3	
		35		560(57.1)	28	3.5	
		40		490(50.0)	32	4	
		45		436(44.4)	36	4.5	
		50		392(40.0)	40	5	
		55		357(36.4)	44	5.5	
		60		327(33.3)	48	6	
		70		280(28.6)	59	7	
		80		245(25.0)	68	8	
SIMX	27	25	13	941(96.0)	20	2.5	2353.6 (240.0)
		30		785(80.0)	24	3	
		35		672(68.6)	28	3.5	
		40		588(60.0)	32	4	
		45		523(53.3)	36	4.5	
		50		471(48.0)	40	5	
		55		428(43.6)	44	5.5	
		60		392(40.0)	48	6	
		70		336(34.3)	59	7	
		80		294(30.0)	68	8	

Code No. Code	D	L	d	Spring Rate N/mm(kgf/mm)	ℓ min. Solid Height	F=L×10% Fmm	Load N(kgf)
SIMX	30	25	14.6	1,432(146.0)	20	2.5	3579.4 (365.0)
		30		1,193(121.7)	24	3	
		35		1,023(104.3)	28	3.5	
		40		895(91.3)	32	4	
		45		795(81.1)	36	4.5	
		50		716(73.0)	40	5	
		55		651(66.4)	44	5.5	
		60		597(60.8)	48	6	
		70		511(52.1)	59	7	
		80		447(45.6)	68	8	
		90		398(40.6)	76	9	
		100		358(36.5)	85	10	
SIMX	35	40	18	1,030(105.0)	34	4	4119 (420.0)
		45		915(93.3)	38.3	4.5	
		50		824(84.0)	42.5	5	
		55		749(76.4)	46.8	5.5	
		60		687(70.0)	51	6	
		70		588(60.0)	59.5	7	
		80		515(52.5)	68	8	
		90		458(46.7)	76.5	9	
		100		412(42.0)	85	10	
SIMX	40	40	20.5	1,300(132.5)	34	4	5198 (530.0)
		45		1,155(117.8)	38.3	4.5	
		50		1,040(106.0)	42.5	5	
		55		945(96.4)	46.8	5.5	
		60		866(88.3)	51	6	
		70		743(75.7)	59.5	7	
		80		650(66.3)	68	8	
		90		578(58.9)	76.5	9	
		100		520(53.0)	85	10	

The method of load calculation:Load=Spring rate x compression

N=N/mm x Fmm(kgf=N x 0.101972)

Soild height is the reference

Cycle life: 10 million times (Lx10%)

Character

This spring specially developed for high-speed stamping.

No surface treatment.

In order to maintain the life of the spring, the maximum compression does not exceed 10%.

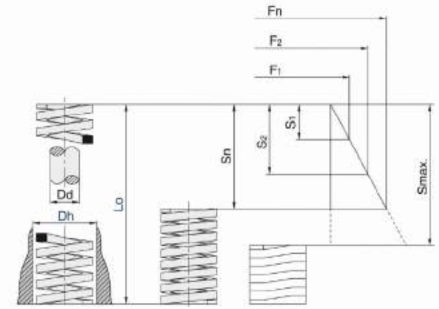
Anti-rust oil can avoid rust, but please still avoid long-term storage

Pay attention to avoiding the rust of the spring during work, please replace it in time if it is rusty.

Material	Color	Code
SWOSC-V	Light green	SIF

L	Tolerance
25~ 89	±1mm
102~305	±1%

DD: Comply with H15 standards
DH: Comply with H15 standard
The tolerance standard is similar to DIN2005



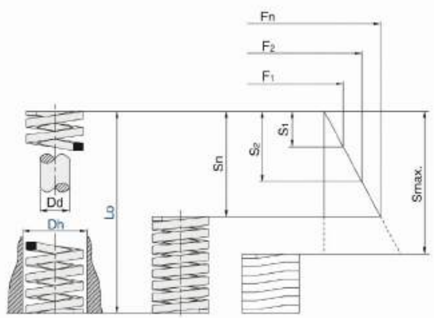
S1: Long service life compression
S2: Average life compression
SN: Maximum working stroke
Smax: Compaction stroke

Order NO.	Dh	Dd	Lo	R (N/mm)	30% S1	30% F1	40% S2	40% F2	50% Sn	50% Fn	travel stroke
SIF20x25	20	10	25	29.4	7.5	221	10.0	294	12.5	368	13.9
SIF20x32			32	22.6	9.6	217	12.8	289	16.0	362	18.2
SIF20x38			38	18.6	11.4	212	15.2	283	19.0	353	22.0
SIF20x44			44	15.7	13.2	207	17.6	276	22.0	345	25.8
SIF20x51			51	13.7	15.3	210	20.4	279	25.5	349	30.3
SIF20x64			64	11.3	19.2	217	25.6	289	32.0	362	38.9
SIF20x76			76	9.8	22.8	223	30.4	298	38.0	372	47.0
SIF20x89			89	8.3	26.7	222	35.6	295	44.5	369	55.7
SIF20x102			102	7.4	30.6	226	40.8	302	51.0	377	64.2
SIF20x115			115	6.4	34.5	221	46.0	294	57.5	368	72.9
SIF20x127			127	5.9	38.1	225	50.8	300	63.5	375	80.7
SIF20x139			139	5.4	41.7	225	55.6	300	69.5	375	88.4
SIF20x152			152	4.9	45.6	223	60.8	298	76.0	372	96.7
SIF20x305			305	2.5	91.5	229	122.0	305	152.5	381	196.3
SIF25x25	25	12.5	25	53.9	7.5	404	10.0	539	12.5	674	12.9
SIF25x32			32	42.2	9.6	405	12.8	540	16.0	675	17.2
SIF25x38			38	35.8	11.4	408	15.2	544	19.0	680	20.7
SIF25x44			44	31.4	13.2	414	17.6	553	22.0	691	24.4
SIF25x51			51	27.0	15.3	413	20.4	551	25.5	689	28.5
SIF25x64			64	21.6	19.2	415	25.6	553	32.0	691	36.5
SIF25x76			76	18.1	22.8	413	30.4	550	38.0	688	43.9
SIF25x89			89	15.2	26.7	406	35.6	541	44.5	691	51.4
SIF25x102			102	13.2	30.6	404	40.8	539	51.0	688	59.3
SIF25x115			115	11.8	34.5	407	46.0	543	57.5	676	67.2
SIF25x127			127	10.6	38.1	404	50.8	538	63.5	673	74.4
SIF25x139			139	9.6	41.7	400	55.6	534	69.5	667	81.6
SIF25x152			152	8.8	45.6	401	60.8	535	76.0	669	89.5
SIF25x178			178	7.6	53.4	406	71.2	541	89.0	676	105.4
SIF25x203			203	6.7	60.9	408	81.2	544	101.5	680	120.7
SIF25x305			305	4.4	91.5	403	122.0	537	152.5	671	182.4
SIF32x64	32	16	38	43.1	11.4	491	15.2	655	19.0	819	19.9
SIF32x76			44	37.3	13.2	492	17.6	656	22.0	821	23.5
SIF32x89			51	32.4	15.3	496	20.4	661	25.5	826	27.6
SIF32x102			64	25.5	19.2	490	25.6	653	32.0	816	35.2
SIF32x115			76	21.6	22.8	492	30.4	657	38.0	821	42.4
SIF32x127			89	18.1	26.7	483	35.6	644	44.5	805	50.0
SIF32x152			102	15.7	30.6	480	40.8	641	51.0	801	57.6
SIF32x178			115	14.2	34.5	490	46.0	653	57.5	817	65.5
SIF32x203			127	12.7	38.1	484	50.8	645	63.5	806	72.5
SIF32x254			139	11.6	41.7	484	55.6	645	69.5	806	79.4
SIF32x305			152	10.6	45.6	483	60.8	644	76.0	806	87.3
SIF40x51	40	20	51	48.1	15.3	736	20.4	981	25.5	1227	28.0
SIF40x64			64	39.2	19.2	753	25.6	1004	32.0	1254	36.2
SIF40x76			76	33.3	22.8	759	30.4	1012	38.0	1265	43.7
SIF40x89			89	28.4	26.7	758	35.6	1011	44.5	1264	51.7
SIF40x102			102	24.5	30.6	750	40.8	1000	51.0	1250	59.8
SIF40x115			115	22.1	34.5	762	46.0	1017	57.5	1271	67.9
SIF40x127			127	19.6	38.1	747	50.8	996	63.5	1245	75.2
SIF40x139			139	17.7	41.7	738	55.6	984	69.5	1230	82.4
SIF40x152			152	16.2	45.6	739	60.8	985	76.0	1231	90.6
SIF40x178			178	13.7	53.4	732	71.2	975	89.0	1219	106.5
SIF40x203			203	12.3	60.9	749	81.2	999	101.5	1248	122.2
SIF40x254			254	9.8	76.2	747	101.6	996	127.0	1245	153.6
SIF40x305			305	8.3	91.5	759	122.0	1013	152.5	1266	185.4
SIF50x64	50	25	64	86.3	19.2	1657	25.6	2209	32.0	2762	35.1
SIF50x76			76	70.6	22.8	1610	30.4	2146	38.0	2683	42.2
SIF50x89			89	59.8	26.7	1597	35.6	2129	44.5	2661	50.3
SIF50x102			102	52.0	30.6	1591	40.8	2122	51.0	2652	58.4
SIF50x115			115	46.1	34.5	1590	46.0	2121	57.5	2651	66.1
SIF50x127			127	42.2	38.1	1608	50.8	2144	63.5	2680	73.8
SIF50x139			139	38.2	41.7	1593	55.6	2124	69.5	2655	80.9
SIF50x152			152	34.3	45.6	1564	60.8	2085	76.0	2607	89.0
SIF50x178			178	29.4	53.4	1570	71.2	2093	89.0	2617	105.3
SIF50x203			203	25.5	60.9	1553	81.2	2071	101.5	2588	120.6
SIF50x254			254	20.6	76.2	1570	101.6	2093	127.0	2616	152.2
SIF50x305			305	17.2	91.5	1574	122.0	2098	152.5	2623	183.7

Material	Color	Code
Special alloy	Green	SIL

L	Tolerance
25~ 89	±1mm
102~305	±1%

DD: Comply with H15 standards
DH: Comply with H15 standard
The tolerance standard is similar to DIN2095



S1: Long service life compression
S2: Average life compression
SN: Maximum working stroke
Smax: Compaction stroke

Order NO.	Dh	Dd	Lo	R (N/mm)	25% S1	25% F1	30% S2	30% F2	40% Sn	40% Fn	travel stroke
SIL10x25	10	5	25	10.0	6.3	63	7.5	75	10.0	100	13.5
SIL10x32			32	8.5	8.0	68	9.6	82	12.8	109	17.5
SIL10x38			38	6.8	9.5	65	11.4	78	15.2	103	20.8
SIL10x44			44	6.0	11.0	66	13.2	79	17.6	106	23.9
SIL10x51			51	5.0	12.8	64	15.3	77	20.4	102	28.9
SIL10x64			64	4.3	16.0	69	19.2	83	25.6	110	36.1
SIL10x76			76	3.2	19.0	61	22.8	73	30.4	97	43.2
SIL10x305			305	1.1	76.3	84	91.5	101	122.0	134	178.7
SIL12.5x25	12.5	6.3	25	17.9	6.3	113	7.5	134	10.0	179	13.2
SIL12.5x32			32	16.4	8.0	131	9.6	157	12.8	210	18.0
SIL12.5x38			38	13.6	9.5	129	11.4	155	15.2	207	21.0
SIL12.5x44			44	12.1	11.0	133	13.2	160	17.6	213	24.0
SIL12.5x51			51	11.4	12.8	146	15.3	174	20.4	233	28.7
SIL12.5x64			64	9.3	16.0	149	19.2	179	25.6	238	35.8
SIL12.5x76			76	7.1	19.0	135	22.8	162	30.4	216	42.7
SIL12.5x89			89	5.4	22.3	120	26.7	144	35.6	192	50.4
SIL12.5x305			305	1.4	76.3	107	91.5	128	122.0	171	172.0
SIL16x25	16	8	25	23.4	6.3	147	7.5	176	10.0	234	12.6
SIL16x32			32	22.9	8.0	183	9.6	220	12.8	293	16.4
SIL16x38			38	19.3	9.5	183	11.4	220	15.2	293	19.7
SIL16x44			44	17.1	11.0	188	13.2	226	17.6	301	22.5
SIL16x51			51	15.7	12.8	201	15.3	240	20.4	320	26.3
SIL16x64			64	10.7	16.0	171	19.2	205	25.6	274	33.3
SIL16x76			76	10.0	19.0	190	22.8	228	30.4	304	40.2
SIL16x89			89	8.6	22.3	192	26.7	230	35.6	306	47.6
SIL16x102			102	7.8	25.5	199	30.6	239	40.8	318	55.4
SIL16x305			305	2.5	76.3	191	91.5	229	122.0	305	165.3
SIL20x25	20	10	25	55.8	6.3	352	7.5	419	10.0	558	12.1
SIL20x32			32	45.0	8.0	360	9.6	432	12.8	576	15.3
SIL20x38			38	33.3	9.5	316	11.4	380	15.2	506	18.9
SIL20x44			44	30.0	11.0	330	13.2	396	17.6	528	21.5
SIL20x51			51	24.5	12.8	314	15.3	375	20.4	500	25.0
SIL20x64			64	20.0	16.0	320	19.2	384	25.6	512	31.1
SIL20x76			76	16.0	19.0	304	22.8	365	30.4	486	37.3
SIL20x89			89	14.0	22.3	312	26.7	374	35.6	498	44.5
SIL20x102			102	12.0	25.5	306	30.6	367	40.8	490	51.1
SIL20x115			115	10.9	28.8	314	34.5	376	46.0	501	58.2
SIL20x127			127	9.5	31.8	302	38.1	362	50.8	483	64.9
SIL20x139			139	8.4	35.0	294	42.0	353	56.0	470	71.5
SIL20x152			152	7.5	38.0	285	45.6	342	60.8	456	78.8
SIL20x305			305	4.0	76.3	305	91.5	366	122.0	488	157.4

SIL

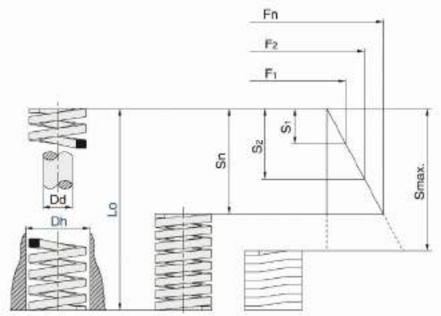
Order NO.	Dh	Dd	Lo	R (N/mm)	25% S1	25% F1	30% S2	30% F2	40% Sn	40% Fn	travel stroke
SIL 25x25	25	12.5	25	100.0	6.3	630	7.5	750	10.0	1000	12.1
SIL 25x32			32	80.3	8.0	642	9.6	771	12.8	1028	15.2
SIL 25x38			38	62.0	9.5	589	11.4	707	15.2	942	18.3
SIL 25x44			44	52.9	11.0	582	13.2	698	17.6	931	21.4
SIL 25x51			51	44.0	12.8	563	15.3	673	20.4	898	24.9
SIL 25x64			64	35.2	16.0	563	19.2	676	25.6	901	31.4
SIL 25x76			76	28.0	19.0	532	22.8	638	30.4	851	37.5
SIL 25x89			89	24.0	22.3	535	26.7	641	35.6	854	43.5
SIL 25x102			102	21.1	25.5	538	30.6	646	40.8	861	51.1
SIL 25x115			115	18.7	28.8	539	34.5	645	46.0	860	58.1
SIL 25x127			127	16.7	31.8	531	38.1	636	50.8	848	64.1
SIL 25x139			139	15.3	35.0	536	42.0	643	56.0	857	70.4
SIL 25x152			152	14.0	38.0	532	45.6	638	60.8	851	77.1
SIL 25x178			178	12.5	44.5	556	53.4	668	71.2	890	93.1
SIL 25x203			203	10.4	50.8	528	60.9	633	81.2	844	102.7
SIL 25x305			305	7.0	76.3	534	91.5	641	122.0	854	155.9
SIL 32x38	32	16	38	94.0	9.5	893	11.4	1072	15.2	1429	18.3
SIL 32x44			44	79.5	11.0	875	13.2	1049	17.6	1399	21.5
SIL 32x51			51	67.0	12.8	858	15.3	1025	20.4	1367	25.5
SIL 32x64			64	53.0	16.0	848	19.2	1018	25.6	1357	31.9
SIL 32x76			76	44.0	19.0	836	22.8	1003	30.4	1338	38.6
SIL 32x89			89	37.2	22.3	830	26.7	993	35.6	1324	46.5
SIL 32x102			102	32.0	25.5	816	30.6	979	40.8	1306	53.2
SIL 32x115			115	29.0	28.8	835	34.5	1001	46.0	1334	60.0
SIL 32x127			127	25.0	31.8	795	38.1	953	50.8	1270	66.7
SIL 32x139			139	23.0	35.0	805	42.0	966	56.0	1288	71.8
SIL 32x152			152	21.5	38.0	817	45.6	980	60.8	1307	78.5
SIL 32x178			178	18.2	44.5	810	53.4	972	71.2	1296	94.4
SIL 32x203			203	15.8	50.8	803	60.9	962	81.2	1283	107.1
SIL 32x254			254	12.5	63.5	794	76.2	953	101.6	1270	136.5
SIL 32x305			305	10.3	76.3	786	91.5	942	122.0	1257	162.7
SIL 40x51	40	20	51	92.0	12.8	1178	15.3	1408	20.4	1877	25.5
SIL 40x64			64	73.0	16.0	1168	19.2	1402	25.6	1869	31.4
SIL 40x76			76	63.0	19.0	1197	22.8	1436	30.4	1915	37.8
SIL 40x89			89	51.0	22.3	1137	26.7	1362	35.6	1816	44.3
SIL 40x102			102	43.0	25.5	1097	30.6	1316	40.8	1754	50.7
SIL 40x115			115	39.6	28.8	1140	34.5	1366	46.0	1822	58.1
SIL 40x127			127	37.0	31.8	1177	38.1	1410	50.8	1880	64.6
SIL 40x139			139	32.0	35.0	1120	42.0	1344	56.0	1792	70.1
SIL 40x152			152	28.0	38.0	1064	45.6	1277	60.8	1702	76.6
SIL 40x178			178	25.2	44.5	1121	53.4	1346	71.2	1794	90.4
SIL 40x203			203	22.7	50.8	1153	60.9	1382	81.2	1843	102.4
SIL 40x254			254	17.0	63.5	1080	76.2	1295	101.6	1727	128.8
SIL 40x305			305	14.8	76.3	1129	91.5	1354	122.0	1806	156.1
SIL 50x64	50	25	64	156.0	16.0	2496	19.2	2995	25.6	3994	31.0
SIL 50x76			76	125.0	19.0	2375	22.8	2850	30.4	3800	37.2
SIL 50x89			89	109.0	22.3	2431	26.7	2910	35.6	3880	43.6
SIL 50x102			102	94.0	25.5	2397	30.6	2876	40.8	3835	50.3
SIL 50x115			115	81.0	28.8	2333	34.5	2795	46.0	3726	58.1
SIL 50x127			127	71.0	31.8	2258	38.1	2705	50.8	3607	63.7
SIL 50x139			139	66.5	35.0	2328	42.0	2793	56.0	3724	69.5
SIL 50x152			152	60.0	38.0	2280	45.6	2736	60.8	3648	76.5
SIL 50x178			178	52.0	44.5	2314	53.4	2777	71.2	3702	91.9
SIL 50x203			203	44.0	50.8	2235	60.9	2680	81.2	3573	104.7
SIL 50x254			254	35.0	63.5	2223	76.2	2667	101.6	3556	130.6
SIL 50x305			305	28.5	76.3	2175	91.5	2608	122.0	3477	154.9
SIL 63x76	63	38	76	189.0	19.0	3591	22.8	4309	30.4	5746	36.5
SIL 63x89			89	158.0	22.3	3523	26.7	4219	35.6	5625	43.4
SIL 63x102			102	131.0	25.5	3341	30.6	4009	40.8	5345	49.7
SIL 63x115			115	116.0	28.8	3341	34.5	4002	46.0	5336	55.6
SIL 63x127			127	103.0	31.8	3275	38.1	3924	50.8	5232	62.7
SIL 63x152			152	84.3	38.0	3203	45.6	3844	60.8	5125	77.1
SIL 63x178			178	71.5	44.5	3182	53.4	3818	71.2	5091	92.2
SIL 63x203			203	61.7	50.8	3134	60.9	3725	81.2	5010	103.5
SIL 63x254			254	47.0	63.5	2985	76.2	3581	101.6	4775	130.4
SIL 63x305			305	38.2	76.3	2915	91.5	3495	122.0	4660	157.4

Simf

Material	Color	Code
Special alloy	Blue	SIM

L	Tolerance
25~89	±1mm
102-305	±1%

DD: Comply with H15 standards
DH: Comply with H15 standard
The tolerance standard is similar to DIN2095



S1: Long service life compression
S2: Average life compression
SN: Maximum working stroke
Smax: Compaction stroke

Order NO.	Dh	Dd	Lo	R (N/mm)	25% S_1	25% F_1	30% S_2	30% F_2	37.5% S_n	37.5% F_n	travel stroke
SIM10x25	10	5	25	16.0	6.3	101	7.5	120	9.4	150	10.2
SIM10x32			32	13.0	8.0	104	9.6	125	12.0	156	14.2
SIM10x38			38	11.9	9.5	113	11.4	136	14.3	170	16.8
SIM10x44			44	10.3	11.0	113	13.2	136	16.5	170	19.4
SIM10x51			51	8.9	12.8	114	15.3	136	19.1	170	23.4
SIM10x64			64	7.5	16.0	120	19.2	144	24.0	180	28.2
SIM10x76			76	5.3	19.0	101	22.8	121	28.5	151	34.2
SIM10x305			305	1.6	76.3	122	91.5	146	114.4	183	133.8
SIM12.5x25	12.5	6.3	25	30.0	6.3	189	7.5	225	9.4	282	11.9
SIM12.5x32			32	24.8	8.0	198	9.6	238	12.0	298	16.2
SIM12.5x38			38	21.4	9.5	203	11.4	244	14.3	306	18.7
SIM12.5x44			44	18.5	11.0	204	13.2	244	16.5	305	21.3
SIM12.5x51			51	15.5	12.8	198	15.3	237	19.1	296	25.6
SIM12.5x64			64	12.1	16.0	194	19.2	232	24.0	290	32.4
SIM12.5x76			76	10.2	19.0	194	22.8	233	28.5	291	39.0
SIM12.5x89			89	8.4	22.3	187	26.7	224	33.4	281	45.9
SIM12.5x305			305	2.1	76.3	160	91.5	192	114.4	240	152.5
SIM16x25	16	8	25	49.4	6.3	311	7.5	371	9.4	464	10.5
SIM16x32			32	37.1	8.0	297	9.6	356	12.0	445	13.2
SIM16x38			38	33.9	9.5	322	11.4	386	14.3	485	17.2
SIM16x44			44	30.0	11.0	330	13.2	396	16.5	495	19.4
SIM16x51			51	26.4	12.8	338	15.3	404	19.1	504	24.2
SIM16x64			64	20.5	16.0	328	19.2	394	24.0	492	29.2
SIM16x76			76	17.8	19.0	338	22.8	406	28.5	507	36.3
SIM16x89			89	15.2	22.3	339	26.7	406	33.4	508	41.7
SIM16x102			102	13.5	25.5	344	30.6	413	38.3	517	48.9
SIM16x305			305	4.8	76.3	366	91.5	439	114.4	549	141.6
SIM20x25	20	10	25	98.0	6.3	617	7.5	735	9.4	921	10.5
SIM20x32			32	72.6	8.0	581	9.6	697	12.0	871	13.9
SIM20x38			38	56.0	9.5	532	11.4	638	14.3	801	16.6
SIM20x44			44	47.5	11.0	523	13.2	627	16.5	784	18.8
SIM20x51			51	41.7	12.8	534	15.3	638	19.1	796	23.1
SIM20x64			64	32.3	16.0	517	19.2	620	24.0	775	27.5
SIM20x76			76	25.1	19.0	477	22.8	572	28.5	715	33.8
SIM20x89			89	22.0	22.3	491	26.7	587	33.4	735	39.7
SIM20x102			102	19.8	25.5	505	30.6	606	38.3	758	47.3
SIM20x115			115	18.1	28.8	521	34.5	624	43.1	780	52.5
SIM20x127			127	16.6	31.8	528	38.1	632	47.6	790	56.9
SIM20x139			139	15.1	35.0	529	42.0	634	52.5	793	62.1
SIM20x152			152	13.2	38.0	500	45.6	600	57.0	750	67.6
SIM20x305			305	6.1	76.3	465	91.5	558	114.4	698	143.4

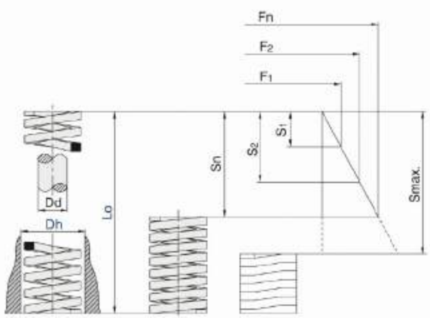
Order NO.	Dh	Dd	Lo	R (N/mm)	25% S_1	25% F_1	30% S_2	30% F_2	37.5% S_n	37.5% F_n	travel stroke
SIM25x25	25	12.5	25	147.0	6.3	926	7.5	1103	9.4	1382	10.2
SIM25x32			32	118.0	8.0	944	9.6	1133	12.0	1416	13.7
SIM25x38			38	93.0	9.5	884	11.4	1060	14.3	1330	15.7
SIM25x44			44	80.8	11.0	889	13.2	1067	16.5	1333	18.2
SIM25x51			51	68.6	12.8	878	15.3	1050	19.1	1310	21.7
SIM25x64			64	53.0	16.0	848	19.2	1018	24.0	1272	26.0
SIM25x76			76	43.2	19.0	821	22.8	985	28.5	1231	32.3
SIM25x89			89	38.2	22.3	852	26.7	1020	33.4	1276	38.0
SIM25x102			102	33.0	25.5	842	30.6	1010	38.3	1264	43.0
SIM25x115			115	28.0	28.8	806	34.5	966	43.1	1207	48.6
SIM25x127			127	25.9	31.8	824	38.1	987	47.6	1233	53.7
SIM25x139			139	23.2	35.0	812	42.0	974	52.5	1218	59.4
SIM25x152			152	20.8	38.0	790	45.6	948	57.0	1186	63.8
SIM25x178			178	17.8	44.5	792	53.4	951	66.8	1189	76.6
SIM25x203			203	15.8	50.8	803	60.9	962	76.1	1202	88.4
SIM25x305			305	10.2	76.3	778	91.5	933	114.4	1167	135.1
SIM32x38	32	16	38	185.0	9.5	1758	11.4	2109	14.3	2646	16.3
SIM32x44			44	158.0	11.0	1738	13.2	2086	16.5	2607	18.9
SIM32x51			51	134.0	12.8	1715	15.3	2050	19.1	2559	23.1
SIM32x64			64	99.0	16.0	1584	19.2	1901	24.0	2376	28.5
SIM32x76			76	80.5	19.0	1530	22.8	1835	28.5	2294	34.2
SIM32x89			89	69.1	22.3	1541	26.7	1845	33.4	2308	40.4
SIM32x102			102	58.8	25.5	1499	30.6	1799	38.3	2252	48.0
SIM32x115			115	51.5	28.8	1483	34.5	1777	43.1	2220	54.3
SIM32x127			127	44.8	31.8	1425	38.1	1707	47.6	2132	59.2
SIM32x139			139	42.3	35.0	1481	42.0	1777	52.5	2221	65.3
SIM32x152			152	37.8	38.0	1436	45.6	1724	57.0	2155	73.0
SIM32x178			178	32.5	44.5	1446	53.4	1736	66.8	2171	84.5
SIM32x203			203	28.9	50.8	1468	60.9	1760	76.1	2199	96.9
SIM32x254			254	21.4	63.5	1359	76.2	1631	95.3	2039	120.9
SIM32x305			305	18.3	76.3	1396	91.5	1674	114.4	2094	146.9
SIM40x51	40	20	51	181.6	12.8	2324	15.3	2778	19.1	3469	21.4
SIM40x64			64	140.0	16.0	2240	19.2	2688	24.0	3360	26.8
SIM40x76			76	108.0	19.0	2052	22.8	2462	28.5	3078	32.7
SIM40x89			89	90.7	22.3	2023	26.7	2422	33.4	3029	39.0
SIM40x102			102	81.0	25.5	2066	30.6	2479	38.3	3102	44.1
SIM40x115			115	71.8	28.8	2068	34.5	2477	43.1	3095	50.6
SIM40x127			127	62.7	31.8	1994	38.1	2389	47.6	2985	55.9
SIM40x139			139	57.5	35.0	2013	42.0	2415	52.5	3019	61.8
SIM40x152			152	51.6	38.0	1961	45.6	2353	57.0	2941	67.5
SIM40x178			178	44.1	44.5	1962	53.4	2355	66.8	2946	77.2
SIM40x203			203	36.7	50.8	1864	60.9	2235	76.1	2793	91.8
SIM40x254			254	30.1	63.5	1911	76.2	2294	95.3	2869	112.7
SIM40x305			305	24.6	76.3	1877	91.5	2251	114.4	2814	138.1
SIM50x64	50	25	64	209.0	16.0	3344	19.2	4013	24.0	5016	28.2
SIM50x76			76	168.0	19.0	3192	22.8	3830	28.5	4788	34.9
SIM50x89			89	140.0	22.3	3122	26.7	3738	33.4	4676	39.2
SIM50x102			102	119.0	25.5	3035	30.6	3641	38.3	4558	47.3
SIM50x115			115	106.0	28.8	3053	34.5	3657	43.1	4569	52.6
SIM50x127			127	97.0	31.8	3085	38.1	3696	47.6	4617	59.8
SIM50x139			139	87.0	35.0	3045	42.0	3654	52.5	4568	65.1
SIM50x152			152	80.0	38.0	3040	45.6	3648	57.0	4560	70.8
SIM50x178			178	69.5	44.5	3093	53.4	3711	66.8	4643	84.2
SIM50x203			203	59.8	50.8	3038	60.9	3642	76.1	4551	96.6
SIM50x229			229	50.9	57.3	2917	68.7	3497	85.9	4372	108.5
SIM50x254			254	43.9	63.5	2788	76.2	3345	95.3	4184	121.8
SIM50x305			305	38.6	76.3	2945	91.5	3532	114.4	4416	146.8
SIM63x76	63	38	76	312.0	19.0	5928	22.8	7114	28.5	8892	30.7
SIM63x89			89	260.0	22.3	5798	26.7	6942	33.4	8684	36.5
SIM63x102			102	221.0	25.5	5636	30.6	6763	38.3	8464	43.6
SIM63x115			115	187.0	28.8	5386	34.5	6452	43.1	8060	48.9
SIM63x127			127	168.0	31.8	5342	38.1	6401	47.6	7997	54.2
SIM63x152			152	136.0	38.0	5168	45.6	6202	57.0	7752	65.7
SIM63x178			178	114.0	44.5	5073	53.4	6088	66.8	7615	76.5
SIM63x203			203	100.0	50.8	5080	60.9	6090	76.1	7610	88.0
SIM63x229			229	89.2	57.3	5111	68.7	6128	85.9	7662	103.9
SIM63x254			254	78.4	63.5	4978	76.2	5974	95.3	7472	112.4
SIM63x305			305	64.7	76.3	4937	91.5	5920	114.4	7402	133.8

Heavy Load Die Springs-Red ISO 10243 Standard

Material	Color	Code
Special alloy	Red	SIH

L	Tolerance
25- 89	±1mm
102-305	±1%

DD: Comply with H15 standards
DH: Comply with H15 standard
The tolerance standard is similar to DIN2095



S1: Long service life compression
S2: Average life compression
SN: Maximum working stroke
Smax: Compaction stroke

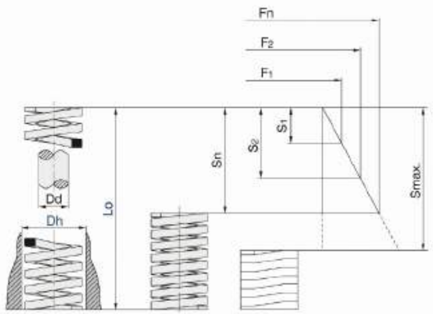
Order NO.	Dh	Dd	Lo	R (N/mm)	20%		25%		30%		travel stroke
					S_1	F_1	S_2	F_2	S_n	F_n	
SIH10x25	10	5	25	22.1	5.0	111	6.3	139	7.5	166	9.2
SIH10x32			32	17.5	6.4	112	8.0	140	9.6	168	12.1
SIH10x38			38	17.1	7.6	130	9.5	162	11.4	195	13.2
SIH10x44			44	15.0	8.8	132	11.0	165	13.2	198	15.1
SIH10x51			51	12.8	10.2	131	12.8	164	15.3	196	19.5
SIH10x64			64	10.7	12.8	137	16.0	171	19.2	205	21.8
SIH10x76			76	7.5	15.2	114	19.0	143	22.8	171	27.9
SIH10x305			305	2.1	61.0	128	76.3	160	91.5	192	127.2
SIH12.5x25	12.5	6.3	25	42.1	5.0	211	6.3	265	7.5	316	9.8
SIH12.5x32			32	33.2	6.4	212	8.0	266	9.6	319	13.6
SIH12.5x38			38	29.3	7.6	223	9.5	278	11.4	334	14.6
SIH12.5x44			44	24.6	8.8	216	11.0	271	13.2	325	18.1
SIH12.5x51			51	19.6	10.2	200	12.8	251	15.3	300	22.3
SIH12.5x64			64	15.0	12.8	192	16.0	240	19.2	288	27.3
SIH12.5x76			76	13.2	15.2	201	19.0	251	22.8	301	33.1
SIH12.5x89			89	11.4	17.8	203	22.3	254	26.7	304	38.9
SIH12.5x305			305	2.8	61.0	171	76.3	214	91.5	256	139.7
SIH16x25	16	8	25	75.7	5.0	379	6.3	477	7.5	568	8.4
SIH16x32			32	52.8	6.4	338	8.0	422	9.6	507	10.5
SIH16x38			38	48.5	7.6	369	9.5	461	11.4	553	13.6
SIH16x44			44	42.8	8.8	377	11.0	471	13.2	565	15.9
SIH16x51			51	37.1	10.2	378	12.8	475	15.3	568	18.9
SIH16x64			64	30.3	12.8	388	16.0	485	19.2	582	24.9
SIH16x76			76	25.7	15.2	391	19.0	488	22.8	586	29.2
SIH16x89			89	21.7	17.8	386	22.3	484	26.7	579	34.5
SIH16x102			102	19.3	20.4	394	25.5	492	30.6	591	39.1
SIH16x305			305	7.1	61.0	433	76.3	542	91.5	650	103.6
SIH20x25	20	10	25	216.0	5.0	1080	6.3	1361	7.5	1620	8.3
SIH20x32			32	168.0	6.4	1075	8.0	1344	9.6	1613	10.9
SIH20x38			38	129.0	7.6	980	9.5	1226	11.4	1471	12.5
SIH20x44			44	112.0	8.8	986	11.0	1232	13.2	1478	15.0
SIH20x51			51	94.0	10.2	959	12.8	1203	15.3	1438	17.6
SIH20x64			64	72.1	12.8	923	16.0	1154	19.2	1384	22.6
SIH20x76			76	59.7	15.2	907	19.0	1134	22.8	1361	27.5
SIH20x89			89	50.5	17.8	899	22.3	1126	26.7	1348	31.7
SIH20x102			102	44.2	20.4	902	25.5	1127	30.6	1353	37.5
SIH20x115			115	38.4	23.0	883	28.8	1106	34.5	1325	42.6
SIH20x127			127	34.1	25.4	866	31.8	1084	38.1	1299	45.5
SIH20x139			139	31.0	28.0	868	35.0	1085	42.0	1302	50.1
SIH20x152			152	28.2	30.4	857	38.0	1072	45.6	1286	55.8
SIH20x305			305	15.0	61.0	915	76.3	1145	91.5	1373	114.1

Order NO.	Dh	Dd	Lo	R (N/mm)	20%		25%		30%		travel stroke
					S_1	F_1	S_2	F_2	S_n	F_n	
SIH 25x25	25	12.5	25	375.0	5.0	1875	6.3	2363	7.5	2813	8.5
SIH 25x32			32	297.0	6.4	1901	8.0	2376	9.6	2851	11.0
SIH 25x38			38	219.0	7.6	1664	9.5	2081	11.4	2497	12.6
SIH 25x44			44	187.0	8.8	1646	11.0	2057	13.2	2468	14.8
SIH 25x51			51	156.0	10.2	1591	12.8	1997	15.3	2387	17.9
SIH 25x64			64	123.0	12.8	1574	16.0	1968	19.2	2362	23.1
SIH 25x76			76	99.0	15.2	1505	19.0	1881	22.8	2257	26.3
SIH 25x89			89	84.0	17.8	1495	22.3	1873	26.7	2243	30.5
SIH 25x102			102	73.0	20.4	1489	25.5	1862	30.6	2234	37.3
SIH 25x115			115	65.0	23.0	1495	28.8	1872	34.5	2243	41.9
SIH 25x127			127	57.7	25.4	1466	31.8	1835	38.1	2198	46.2
SIH 25x139			139	52.7	28.0	1476	35.0	1845	42.0	2213	49.3
SIH 25x152			152	47.8	30.4	1453	38.0	1816	45.6	2180	55.7
SIH 25x178			178	41.0	35.6	1460	44.5	1825	53.4	2189	65.1
SIH 25x203			203	35.8	40.6	1453	50.8	1819	60.9	2180	74.5
SIH 25x305			305	22.9	61.0	1397	76.3	1747	91.5	2095	110.2
SIH 32x38	32	16	38	388.0	7.6	2949	9.5	3686	11.4	4423	12.5
SIH 32x44			44	324.0	8.8	2851	11.0	3564	13.2	4277	14.9
SIH 32x51			51	272.0	10.2	2774	12.8	3482	15.3	4162	17.8
SIH 32x64			64	212.0	12.8	2714	16.0	3392	19.2	4070	22.4
SIH 32x76			76	172.0	15.2	2614	19.0	3268	22.8	3922	26.1
SIH 32x89			89	141.0	17.8	2510	22.3	3144	26.7	3765	30.8
SIH 32x102			102	122.0	20.4	2489	25.5	3111	30.6	3733	36.8
SIH 32x115			115	107.0	23.0	2461	28.8	3082	34.5	3692	41.4
SIH 32x127			127	93.0	25.4	2362	31.8	2957	38.1	3543	44.4
SIH 32x139			139	86.0	28.0	2408	35.0	3010	42.0	3612	48.5
SIH 32x152			152	78.0	30.4	2371	38.0	2964	45.6	3557	54.8
SIH 32x178			178	67.2	35.6	2392	44.5	2990	53.4	3588	63.6
SIH 32x203			203	59.1	40.6	2399	50.8	3002	60.9	3599	72.5
SIH 32x254			254	46.4	50.8	2357	63.5	2946	76.2	3536	92.8
SIH 32x305			305	38.0	61.0	2318	76.3	2899	91.5	3477	111.8
SIH 40x51	40	20	51	350.0	10.2	3570	12.8	4480	15.3	5355	17.0
SIH 40x64			64	269.0	12.8	3443	16.0	4304	19.2	5165	21.9
SIH 40x76			76	219.0	15.2	3329	19.0	4161	22.8	4993	26.7
SIH 40x89			89	190.0	17.8	3382	22.3	4237	26.7	5073	31.3
SIH 40x102			102	163.0	20.4	3325	25.5	4157	30.6	4988	37.1
SIH 40x115			115	142.0	23.0	3266	28.8	4090	34.5	4899	41.0
SIH 40x127			127	128.0	25.4	3251	31.8	4070	38.1	4877	46.5
SIH 40x139			139	115.0	28.0	3220	35.0	4025	42.0	4830	53.1
SIH 40x152			152	105.0	30.4	3192	38.0	3990	45.6	4788	56.1
SIH 40x178			178	89.0	35.6	3168	44.5	3961	53.4	4753	67.4
SIH 40x203			203	77.0	40.6	3126	50.8	3912	60.9	4689	76.2
SIH 40x254			254	61.0	50.8	3099	63.5	3874	76.2	4648	96.2
SIH 40x305			305	51.0	61.0	3111	76.3	3891	91.5	4667	114.8
SIH 50x64	50	25	64	413.0	12.8	5286	16.0	6608	19.2	7930	22.4
SIH 50x76			76	339.0	15.2	5153	19.0	6441	22.8	7729	26.5
SIH 50x89			89	288.0	17.8	5126	22.3	6422	26.7	7690	31.5
SIH 50x102			102	245.0	20.4	4998	25.5	6248	30.6	7497	37.6
SIH 50x115			115	215.0	23.0	4945	28.8	6192	34.5	7418	42.7
SIH 50x127			127	192.0	25.4	4877	31.8	6106	38.1	7315	47.5
SIH 50x139			139	168.0	28.0	4704	35.0	5880	42.0	7056	51.8
SIH 50x152			152	154.0	30.4	4682	38.0	5852	45.6	7022	57.8
SIH 50x178			178	134.0	35.6	4770	44.5	5963	53.4	7156	68.5
SIH 50x203			203	117.0	40.6	4750	50.8	5944	60.9	7125	77.6
SIH 50x254			254	89.0	50.8	4521	63.5	5652	76.2	6782	97.9
SIH 50x305			305	73.0	61.0	4453	76.3	5570	91.5	6680	120.7
SIH63x76	63	38	76	618.0	15.2	9394	19.0	11742	22.8	14090	24.7
SIH63x89			89	515.0	17.8	9167	22.3	11485	26.7	13751	30.0
SIH63x102			102	438.0	20.4	8935	25.5	11169	30.6	13403	35.1
SIH63x115			115	370.0	23.0	8510	28.8	10656	34.5	12765	37.5
SIH63x127			127	333.0	25.4	8458	31.8	10589	38.1	12687	45.9
SIH63x152			152	269.0	30.4	8178	38.0	10222	45.6	12266	56.5
SIH63x178			178	226.0	35.6	8046	44.5	10057	53.4	12068	66.8
SIH63x203			203	198.0	40.6	8039	50.8	10058	60.9	12058	78.8
SIH63x254			254	155.0	50.8	7874	63.5	9843	76.2	11811	101.7
SIH63x305			305	128.0	61.0	7808	76.3	9766	91.5	11712	122.4

Material	Color	Code
Special alloy	Yellow	SIB

L	Tolerance
25~ 89	±1mm
102~305	±1%

DD: Comply with H15 standards
DH: Comply with H15 standard
The tolerance standard is similar to DIN2095



S1: Long service life compression
S2: Average life compression
SN: Maximum working stroke
Smax: Compaction stroke

Order NO.	Dh	Dd	Lo	R (N/mm)	17%		20%		25%		travel stroke
					S1	F1	S2	F2	Sn	Fn	
SIB10×25	10	5	25	36.8	4.3	158	5.0	184	6.3	232	7.7
SIB10×32			32	27.9	5.4	151	6.4	179	8.0	223	10.6
SIB10×38			38	23.7	6.5	154	7.6	180	9.5	225	12.6
SIB10×44			44	19.2	7.5	144	8.8	169	11.0	211	13.8
SIB10×51			51	16.5	8.7	144	10.2	168	12.8	211	16.2
SIB10×64			64	13.2	10.9	144	12.8	169	16.0	211	20.4
SIB10×76			76	10.9	12.9	141	15.2	166	19.0	207	25.2
SIB10×305			305	2.6	51.9	135	61.0	159	76.3	198	110.8
SIB12.5×25	12.5	6.3	25	58.5	4.3	252	5.0	293	6.3	369	8.1
SIB12.5×32			32	43.9	5.4	237	6.4	281	8.0	351	9.9
SIB12.5×38			38	36.0	6.5	234	7.6	274	9.5	342	12.9
SIB12.5×44			44	30.3	7.5	227	8.8	267	11.0	333	14.1
SIB12.5×51			51	26.2	8.7	228	10.2	267	12.8	335	17.4
SIB12.5×64			64	21.2	10.9	231	12.8	271	16.0	339	21.0
SIB12.5×76			76	17.1	12.9	221	15.2	260	19.0	325	26.4
SIB12.5×89			89	14.5	15.1	219	17.8	258	22.3	323	31.5
SIB12.5×305			305	4.3	51.9	223	61.0	262	76.3	328	111.3
SIB16×25	16	8	25	118.0	4.3	507	5.0	590	6.3	743	8.5
SIB16×32			32	89.0	5.4	481	6.4	570	8.0	712	11.0
SIB16×38			38	72.1	6.5	469	7.6	548	9.5	685	13.2
SIB16×44			44	60.9	7.5	457	8.8	536	11.0	670	14.7
SIB16×51			51	52.3	8.7	455	10.2	533	12.8	669	17.7
SIB16×64			64	41.2	10.9	449	12.8	527	16.0	659	21.9
SIB16×76			76	34.1	12.9	440	15.2	518	19.0	648	27.8
SIB16×89			89	29.5	15.1	445	17.8	525	22.3	658	31.2
SIB16×102			102	25.6	17.3	443	20.4	522	25.5	653	37.9
SIB16×305			305	8.4	51.9	436	61.0	512	76.3	641	113.5
SIB20×25	20	10	25	293.0	4.3	1260	5.0	1465	6.3	1846	6.9
SIB20×32			32	224.0	5.4	1210	6.4	1434	8.0	1792	9.4
SIB20×38			38	177.0	6.5	1151	7.6	1345	9.5	1682	12.0
SIB20×44			44	149.0	7.5	1118	8.8	1311	11.0	1639	13.5
SIB20×51			51	128.0	8.7	1114	10.2	1306	12.8	1638	16.2
SIB20×64			64	99.0	10.9	1079	12.8	1267	16.0	1584	21.2
SIB20×76			76	81.7	12.9	1054	15.2	1242	19.0	1552	24.7
SIB20×89			89	69.5	15.1	1049	17.8	1237	22.3	1550	28.8
SIB20×102			102	60.6	17.3	1048	20.4	1236	25.5	1545	34.8
SIB20×115			115	53.0	19.6	1039	23.0	1219	28.8	1526	39.0
SIB20×127			127	47.5	21.6	1026	25.4	1207	31.8	1511	43.0
SIB20×139			139	43.0	23.8	1023	28.0	1204	35.0	1505	45.3
SIB20×152			152	39.0	25.8	1006	30.4	1186	38.0	1482	50.4
SIB20×305			305	21.2	51.9	1100	61.0	1293	76.3	1618	103.5

Order NO.	Dh	Dd	Lo	R (N/mm)	17%		20%		25%		travel stroke
					S1	F1	S2	F2	Sn	Fn	
SIB25×25	25	12.5	25	459.0	4.3	1974	5.0	2295	6.3	2892	7.3
SIB25×32			32	374.4	5.4	2022	6.4	2396	8.0	2995	10.7
SIB25×38			38	346.0	6.5	2249	7.6	2630	9.5	3287	12.0
SIB25×44			44	244.0	7.5	1830	8.8	2147	11.0	2684	14.4
SIB25×51			51	207.5	8.7	1805	10.2	2117	12.8	2656	17.4
SIB25×64			64	161.0	10.9	1755	12.8	2061	16.0	2576	21.4
SIB25×76			76	130.8	12.9	1687	15.2	1988	19.0	2485	26.9
SIB25×89			89	110.5	15.1	1669	17.8	1967	22.3	2464	30.9
SIB25×102			102	96.3	17.3	1666	20.4	1965	25.5	2456	36.7
SIB25×115			115	85.7	19.6	1680	23.0	1971	28.8	2468	40.3
SIB25×127			127	76.3	21.6	1648	25.4	1938	31.8	2426	45.1
SIB25×139			139	68.9	23.8	1640	28.0	1929	35.0	2412	47.6
SIB25×152			152	63.5	25.8	1638	30.4	1930	38.0	2413	53.5
SIB25×178			178	53.9	30.3	1633	35.6	1919	44.5	2399	63.9
SIB25×203			203	47.0	34.5	1622	40.6	1908	50.8	2388	70.2
SIB25×305			305	30.9	51.9	1604	61.0	1885	76.3	2358	110.1
SIB32×38	32	16	38	528.2	6.5	3433	7.6	4014	9.5	5018	11.4
SIB32×44			44	424.4	7.5	3183	8.8	3735	11.0	4668	13.7
SIB32×51			51	353.0	8.7	3071	10.2	3601	12.8	4518	15.6
SIB32×64			64	269.2	10.9	2934	12.8	3446	16.0	4307	20.0
SIB32×76			76	218.5	12.9	2819	15.2	3321	19.0	4152	24.4
SIB32×89			89	180.3	15.1	2723	17.8	3209	22.3	4021	29.7
SIB32×102			102	155.0	17.3	2682	20.4	3162	25.5	3953	35.1
SIB32×115			115	140.0	19.6	2744	23.0	3220	28.8	4032	39.0
SIB32×127			127	124.0	21.6	2678	25.4	3150	31.8	3943	42.8
SIB32×139			139	112.3	23.8	2673	28.0	3144	35.0	3931	48.6
SIB32×152			152	102.0	25.8	2632	30.4	3101	38.0	3876	52.4
SIB32×178			178	88.2	30.3	2672	35.6	3140	44.5	3925	60.9
SIB32×203			203	76.0	34.5	2622	40.6	3086	50.8	3861	69.2
SIB32×254			254	60.8	43.2	2627	50.8	3089	63.5	3861	88.1
SIB32×305			305	49.0	51.9	2543	61.0	2989	76.3	3739	104.2
SIB40×51	40	20	51	628.0	8.7	5464	10.2	6406	12.8	8038	15.0
SIB40×64			64	487.0	10.9	5308	12.8	6234	16.0	7792	19.5
SIB40×76			76	379.0	12.9	4889	15.2	5761	19.0	7201	23.3
SIB40×89			89	321.0	15.1	4847	17.8	5714	22.3	7158	26.7
SIB40×102			102	281.0	17.3	4861	20.4	5732	25.5	7166	33.8
SIB40×115			115	245.0	19.6	4802	23.0	5635	28.8	7056	36.2
SIB40×127			127	221.0	21.6	4774	25.4	5613	31.8	7028	40.7
SIB40×139			139	190.0	23.8	4522	28.0	5320	35.0	6650	44.5
SIB40×152			152	168.0	25.8	4334	30.4	5107	38.0	6384	49.6
SIB40×178			178	146.0	30.3	4424	35.6	5198	44.5	6497	59.9
SIB40×203			203	132.0	34.5	4554	40.6	5359	50.8	6706	67.1
SIB40×254			254	107.0	43.2	4622	50.8	5436	63.5	6795	86.3
SIB40×305			305	87.8	51.9	4557	61.0	5356	76.3	6699	103.6
SIB50×64	50	25	64	709.0	10.9	7728	12.8	9075	16.0	11344	19.3
SIB50×76			76	572.0	12.9	7379	15.2	8694	19.0	10868	24.2
SIB50×89			89	475.0	15.1	7173	17.8	8455	22.3	10593	28.0
SIB50×102			102	405.0	17.3	7007	20.4	8262	25.5	10328	33.5
SIB50×115			115	352.0	19.6	6899	23.0	8096	28.8	10138	38.6
SIB50×127			127	316.0	21.6	6826	25.4	8026	31.8	10049	41.4
SIB50×139			139	274.0	23.8	6521	28.0	7672	35.0	9590	47.3
SIB50×152			152	239.0	25.8	6166	30.4	7266	38.0	9082	50.2
SIB50×178			178	215.0	30.3	6515	35.6	7654	44.5	9568	61.1
SIB50×203			203	187.0	34.5	6452	40.6	7592	50.8	9500	67.7
SIB50×254			254	153.0	43.2	6610	50.8	7772	63.5	9716	87.0
SIB50×305			305	127.0	51.9	6591	61.0	7747	76.3	9690	103.4
SIB63×76	63	38	76	952.0	12.9	12280	15.2	14470	–	–	15.5
SIB63×89			89	819.0	15.1	12360	17.8	14580	–	–	20.0
SIB63×102			102	700.0	17.3	12110	20.4	14280	25.5	17850	30.7
SIB63×115			115	620.0	19.6	12152	23.0	14260	28.8	17860	34.9
SIB63×127			127	565.0	21.6	12204	25.4	14351	31.8	17967	38.0
SIB63×152			152	458.0	25.8	11816	30.4	13923	38.0	17404	47.2
SIB63×178			178	384.0	30.3	11635	35.6	13670	44.5	17088	55.8
SIB63×203			203	337.0	34.5	11627	40.6	13682	50.8	17120	64.8
SIB63×254			254	263.0	43.2	11362	50.8	13360	63.5	16701	86.7
SIB63×305			305	218.0	51.9	11314	61.0	13298	76.3	16633	105.7