



Super Load Die Spring-Brown

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Material	Color	Code		
Equivalent to SWOSC-V	brown	SIMB		
Content	Error			
Load	±10%			
Shape angle	Below 2°			
Free length	Tolerance	The method of load calculation: Load = Spring rate x compression $N = N/mm \times Fmm (kgf = N \times 0.101972)$ Soild height is the reference		
10~50	±0.5			
55~350	±1%			
Outer Dia.	Tolerance			
6~60	0 -0.7			
70	0 -1.0			

Code No.			cycle life			1 million		0.5 million		0.3 million	
Code	Outer Dia. (mm)	Free length (mm)	Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx16%		F=Lx18%		F=Lx20%	
						Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)	Max compression F(mm)	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)	31.8	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	

Code No.			cycle life			1 million		0.5 million		0.3 million	
Code	Outer Dia. (mm)	Free length (mm)	Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx16%		F=Lx18%		F=Lx20%	
						Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)
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)	15.5	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	
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			

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Code	Outer Dia. (mm)	Free length (mm)	Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx16%		F=Lx18%		F=Lx20%	
						Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)
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	

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						Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)	
SIMB	16	20	8	245.2 (25.00)	15.5	784 (80.0)		882 (90.0)	980 (100.0)	3.2	3.6	4
		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	980 (100.0)		1103 (112.5)	1225 (125.0.0)	3.2	3.6	4
		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 (19.5)	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						

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Code	Outer Dia. (mm)	Free length	Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx16%		F=Lx18%		F=Lx20%		
						Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)	
SIMB	25	25	12.5	40.0 (40.0)	19	4	1922 (196.0)	4.5	2162 (220.5)	5	2403 (245.0)	
		30		44.0 (44.0)	22.8	4.8		5.4		6		
		35		47.5 (47.5)	26.6	5.6		6.3		7		
		40		51.0 (51.0)	30.4	6.4		7.2		8		
		45		54.5 (54.5)	34.2	7.2		8.1		9		
		50		58.0 (58.0)	38	8		9		10		
		55		61.5 (61.5)	41.8	8.8		9.9		11		
		60		65.0 (65.0)	45.6	9.6		10.8		12		
		65		68.5 (68.5)	49.4	10.4		11.7		13		
		70		72.0 (72.0)	53.2	11.2		12.6		14		
		75		75.5 (75.5)	57	12		13.5		15		
		80		79.0 (79.0)	60.8	12.8		14.4		16		
		90		85.5 (85.5)	68.4	14.4		16.2		18		
		100		92.0 (92.0)	76	16		18		20		
		125		110.5 (110.5)	96.1 (9.80)	95		20		22.5		25
		150		134.0 (134.0)	80.1 (8.17)	114		24		27		30
175	157.5 (157.5)	68.6 (7.00)	133	28	31.5	35						
SIMB	30	25	15	40.0 (40.0)	19	4	2824 (288.0)	4.5	3177 (324.0)	5	3530 (360.0)	
		30		44.0 (44.0)	22.8	4.8		5.4		6		
		35		47.5 (47.5)	26.6	5.6		6.3		7		
		40		51.0 (51.0)	30.4	6.4		7.2		8		
		45		54.5 (54.5)	34.2	7.2		8.1		9		
		50		58.0 (58.0)	38	8		9		10		
		55		61.5 (61.5)	41.8	8.8		9.9		11		
		60		65.0 (65.0)	45.6	9.6		10.8		12		
		65		68.5 (68.5)	49.4	10.4		11.7		13		
		70		72.0 (72.0)	53.2	11.2		12.6		14		
		75		75.5 (75.5)	57	12		13.5		15		
		80		79.0 (79.0)	60.8	12.8		14.4		16		
90	85.5 (85.5)	68.4	14.4	16.2	18							

		100		176.5 (19.02)	76	16		18		20	
		125		(11.49)	95	20		22.5		25	
		150		(100.9)	114	24		27		30	
		175		(10.30)	133	28		31.5		35	
		200		88.3 (9.00)	152	32		36		40	
SIMB	35	40	17.5	600.5 (53.25)	31	6.4	3842 (392.0)	7.2	4322 (441.0)	8	4802 (490.0)
		45		(56.42)	34.8	7.2		8.1		9	
		50		(490.9)	38.7	8		9		10	
		55		(445.5)	42.6	8.8		9.9		11	
		60		(403.4)	46.4	9.6		10.8		12	
		65		(373.0)	50.3	10.4		11.7		13	
		70		(350.9)	54.2	11.2		12.6		14	
		75		(300.7)	58.1	12		13.5		15	
		80		(200.3)	61.9	12.8		14.4		16	
		90		(270.7)	69.7	14.4		16.2		18	
		100		(742.9)	77.4	16		18		20	
		125		(100.9)	96.8	20		22.5		25	
		150		(157.2)	116.1	24		27		30	
		175		(120.9)	135.5	28		31.5		35	
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
		50		980.7 (100.00)	38.7	8		9		10
		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	7845	18	8830	20
		125		392.3 (40.00)	96.8	20	(800.0)	22.5	(900.0)	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	50		25							9800 (1000.0)

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						Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)	Max compression F(mm)	Load N (kgf)
SIMB	60	60	30	176.8 (120.00)	46.4	9.6	11298 (1152.0)	10.8	12710 (1296.0)	12	14122 (1440.0)
		70		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	1218.8 (124.3)	54.2	11.2	13655 (1392.0)	12.6	15362 (1566.0)	14	17064 (1740.0)
		80		1066.5 (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	