高たわみ用
TR HIGH DEFLECTION-MINIMAL LOADS

COIL SPRING

内径 (mm)	ばね定数 N／mm (kgf／mm)	自由長 ×40% 100万回 たわみ (mm)	荷重 N {kgf}	自由長 ×45% 50万回 たわみ (mm)	荷重 N {kgf}	自由長 ×50% 30万回 たわみ (mm)	荷重 N {kgf}	Catalog No.	外径 D (mm)	自由長 L (mm)
	10.90 {1.11}	8.0		9.0		10.0				20
	8.72 {0.89}	10.0		11.3		12.5				25
	7.27 {0.74}	12.0		13.5		15.0				30
	6.23 {0.64}	14.0		15.8		17.5				35
	5.45 {0.56}	16.0		18.0		20.0				40
	4.84 {0.49}	18.0		20.3		22.5				45
	4.36 {0.44}	20.0		22.5		25.0				50
	3.96 {0.40}	22.0	88.3 {9.0}	24.8	98.1 {10.0}	27.5	107.9 {11.0}			55
9.0	3.63 {0.37}	24.0		27.0		30.0			14.5	60
	3.35 {0.34}	26.0		29.3		32.5				65
	3.11 {0.32}	28.0		31.5		35.0				70
	2.91 {0.30}	30.0		33.8		37.5				75
	2.73 {0.28}	32.0		36.0		40.0				80
	2.42 {0.25}	36.0		40.5		45.0				90
	2.18 {0.22}	40.0		45.0		50.0				100
	1.74 {0.18}	50.0		56.3		62.5				125
	14.82 {1.51}	10.0		11.3		12.5		TR		25
	12.35 {1.26}	12.0		13.5		15.0				30
	10.58 {1.08}	14.0		15.8		17.5				35
	9.26 {0.94}	16.0		18.0		20.0				40
	8.23 {0.84}	18.0		20.3		22.5				45
	7.41 {0.76}	20.0		22.5		25.0				50
	6.74 {0.69}	22.0		24.8		27.5				55
	6.17 {0.63}	24.0	147.1 {15.0}	27.0	166.7 {17.0}	30.0	186.3 {19.0}			60
11.0	5.70 {0.58}	26.0		29.3		32.5			17	65
	5.29 {0.54}	28.0		31.5		35.0				70
	4.94 {0.50}	30.0		33.8		37.5				75
	4.63 {0.47}	32.0		36.0		40.0				80
	4.12 {0.42}	36.0		40.5		45.0				90
	3.70 {0.38}	40.0		45.0		50.0				100
	2.96 {0.30}	50.0		56.3		62.5				125
	2.47 {0.25}	60.0		67.5		75.0				150

⚠ 自由長 ×50%を超えるたわみでは使用しないでください。　荷重（N）＝ばね定数（N／mm）× たわみ（mm）

Order

Catalog No.	D	–	L
TR	14.5	–	20

内径 (mm)	ばね定数 N／mm (kgf／mm)	自由長 ×40% 100万回 たわみ (mm)	荷重 N {kgf}	自由長 ×45% 50万回 たわみ (mm)	荷重 N {kgf}	自由長 ×50% 30万回 たわみ (mm)	荷重 N {kgf}	Catalog No.	外径 D (mm)	自由長 L (mm)
	13.80 {1.41}	12.0		13.5		15.0				30
	11.83 {1.21}	14.0		15.8		17.5				35
	10.35 {1.06}	16.0		18.0		20.0				40
	9.20 {0.94}	18.0		20.3		22.5				45
	8.28 {0.84}	20.0		22.5		25.0				50
	7.53 {0.77}	22.0		24.8		27.5				55
	6.90 {0.70}	24.0	166.7 {17.0}	27.0	186.3 {19.0}	30.0	205.9 {21.0}			60
13.0	6.37 {0.65}	26.0		29.3		32.5			21	65
	5.91 {0.60}	28.0		31.5		35.0				70
	5.52 {0.56}	30.0		33.8		37.5				75
	5.18 {0.53}	32.0		36.0		40.0				80
	4.60 {0.47}	36.0		40.5		45.0				90
	4.14 {0.42}	40.0		45.0		50.0				100
	3.31 {0.34}	50.0		56.3		62.5				125
	2.76 {0.28}	60.0		67.5		75.0				150
	26.87 {2.74}	12.0		13.5		15.0				30
	23.03 {2.35}	14.0		15.8		17.5		TR		35
	20.16 {2.06}	16.0		18.0		20.0				40
	17.92 {1.83}	18.0		20.3		22.5				45
	16.12 {1.64}	20.0		22.5		25.0				50
	14.66 {1.49}	22.0		24.8		27.5				55
	13.44 {1.37}	24.0		27.0		30.0				60
	12.40 {1.26}	26.0	323.6 {33.0}	29.3	362.8 {37.0}	32.5	402.1 {41.0}			65
16.5	11.52 {1.17}	28.0		31.5		35.0			26	70
	10.75 {1.10}	30.0		33.8		37.5				75
	10.08 {1.03}	32.0		36.0		40.0				80
	8.96 {0.91}	36.0		40.5		45.0				90
	8.06 {0.82}	40.0		45.0		50.0				100
	7.33 {0.75}	44.0		49.5		55.0				110
	6.45 {0.66}	50.0		56.3		62.5				125
	5.37 {0.55}	60.0		67.5		75.0				150
	4.61 {0.47}	70.0		78.8		87.5				175
	4.03 {0.41}	80.0		90.0		100.0				200

⚠ 自由長 ×50%を超えるたわみでは使用しないでください。　荷重（N）＝ばね定数（N／mm）× たわみ（mm）

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高たわみ用
TR HIGH DEFLECTION-MINIMAL LOADS

COIL SPRING

内径 (mm)	ばね定数 N／mm (kgf／mm)	自由長 ×40% 100万回 たわみ (mm)	自由長 ×40% 100万回 荷重 N {kgf}	自由長 ×45% 50万回 たわみ (mm)	自由長 ×45% 50万回 荷重 N {kgf}	自由長 ×50% 30万回 たわみ (mm)	自由長 ×50% 30万回 荷重 N {kgf}	Catalog No.	外径 D (mm)	自由長 L (mm)
	25.06 {2.56}	16.0		18.0		20.0				40
	22.28 {2.27}	18.0		20.3		22.5				45
	20.05 {2.04}	20.0		22.5		25.0				50
	16.71 {1.70}	24.0		27.0		30.0				60
	14.32 {1.46}	28.0		31.5		35.0				70
	12.53 {1.28}	32.0		36.0		40.0				80
	11.14 {1.14}	36.0	402.1 {41.0}	40.5	451.1 {46.0}	45.0	500.1 {51.0}			90
21.0	10.02 {1.02}	40.0		45.0		50.0			32	100
	9.11 {0.93}	44.0		49.5		55.0				110
	8.02 {0.82}	50.0		56.3		62.5				125
	6.68 {0.68}	60.0		67.5		75.0				150
	5.73 {0.58}	70.0		78.8		87.5				175
	5.01 {0.51}	80.0		90.0		100.0				200
	4.01 {0.41}	100.0		112.5		125.0				250
	3.34 {0.34}	120.0		135.0		150.0				300
	27.24 {2.78}	16.0		18.0		20.0				40
	24.21 {2.47}	18.0		20.3		22.5				45
	21.79 {2.22}	20.0		22.5		25.0				50
	18.16 {1.85}	24.0		27.0		30.0				60
	15.57 {1.59}	28.0		31.5		35.0				70
	13.62 {1.39}	32.0		36.0		40.0				80
	12.11 {1.23}	36.0	431.5 {44.0}	40.5	490.3 {50.0}	45.0	539.4 {55.0}	TR		90
26.0	10.90 {1.11}	40.0		45.0		50.0			39	100
	9.91 {1.01}	44.0		49.5		55.0				110
	8.72 {0.89}	50.0		56.3		62.5				125
	7.26 {0.74}	60.0		67.5		75.0				150
	6.23 {0.63}	70.0		78.8		87.5				175
	5.45 {0.56}	80.0		90.0		100.0				200
	4.36 {0.44}	100.0		112.5		125.0				250
	3.63 {0.37}	120.0		135.0		150.0				300
	24.41 {2.49}	20.0		22.5		25.0				50
	20.34 {2.07}	24.0		27.0		30.0				60
	17.43 {1.78}	28.0		31.5		35.0				70
	15.26 {1.56}	32.0		36.0		40.0				80
	13.56 {1.38}	36.0		40.5		45.0				90
	12.20 {1.24}	40.0	490.3 {50.0}	45.0	549.2 {56.0}	50.0	608.0 {62.0}			100
32.0	11.09 {1.13}	44.0		49.5		55.0			46	110
	9.76 {1.00}	50.0		56.3		62.5				125
	8.14 {0.83}	60.0		67.5		75.0				150
	6.97 {0.71}	70.0		78.8		87.5				175
	6.10 {0.62}	80.0		90.0		100.0				200
	4.88 {0.50}	100.0		112.5		125.0				250
	4.07 {0.41}	120.0		135.0		150.0				300

⚠ 自由長 ×50%を超えるたわみでは使用しないでください。　荷重（N）＝ばね定数（N／㎜）× たわみ（㎜）

Order

Catalog No.	D	–	L
TR	32	–	40

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