

TR SERIES (JIS B5012)

Model	Outer Dia. (mm)	Inner Dia. (mm)	Free Length (mm)	Spring Const. (kgf/mm)	Free Length X 40%		Free Length X 45%		Free Length X 50%	
					Deflection	Load	Deflection	Load	Deflection	Load
					(mm)	kgf {N}	(mm)	kgf {N}	(mm)	kgf {N}
DF 14.5 x 20	14.5	9.0	20	1.13	8.0	9 {88.3}	9.0	10 {98.1}	10.0	11 {107.9}
25			25	0.90	10.0		11.3		12.5	
30			30	0.75	12.0		13.5		15.0	
35			35	0.64	14.0		15.8		17.5	
40			40	0.56	16.0		18.0		20.0	
45			45	0.50	18.0		20.3		22.5	
50			50	0.45	20.0		22.5		25.0	
55			55	0.41	22.0		24.8		27.5	
60			60	0.38	24.0		27.0		30.0	
65			65	0.35	26.0		29.3		32.5	
70			70	0.32	28.0		31.5		35.0	
75			75	0.30	30.0		33.8		37.5	
80			80	0.28	32.0		36.0		40.0	
90			90	0.25	36.0		40.5		45.0	
100			100	0.23	40.0		45.0		50.0	
125	125	0.18	50.0	56.3	62.5					
DR 17 x 25	17.0	11.0	25	1.50	10.0	15.0 {147.1}	11.3	17.0 {166.7}	12.5	19.0 {147.1}
30			30	1.25	12.0		13.5		15.0	
35			35	1.07	14.0		15.8		17.5	
40			40	0.94	16.0		18.0		20.0	
45			45	0.83	18.0		20.3		22.5	
50			50	0.75	20.0		22.5		25.0	
55			55	0.68	22.0		24.8		27.5	
60			60	0.63	24.0		27.0		30.0	
65			65	0.58	26.0		29.3		32.5	
70			70	0.54	28.0		31.5		35.0	
75			75	0.50	30.0		33.8		37.5	
80			80	0.47	32.0		36.0		40.0	
90			90	0.42	36.0		40.5		45.0	
100			100	0.38	40.0		45.0		50.0	
125			125	0.30	50.0		56.3		62.5	
150	150	0.25	60.0	67.5	75.0					
DR 21 x 30	21.0	13.0	30	1.42	12.0	17.0 {166.7}	13.5	19.0 {186.3}	15.0	21.0 {205.9}
35			35	1.21	14.0		15.8		17.5	
40			40	1.06	16.0		18.0		20.0	
45			45	0.94	18.0		20.3		22.5	
50			50	0.85	20.0		22.5		25.0	
55			55	0.77	22.0		24.8		27.5	
60			60	0.71	24.0		27.0		30.0	
65			65	0.65	26.0		29.3		32.5	
70			70	0.61	28.0		31.5		35.0	
75			75	0.57	30.0		33.8		37.5	
80			80	0.53	32.0		36.0		40.0	
90			90	0.47	36.0		40.5		45.0	
100			100	0.43	40.0		45.0		50.0	
125			125	0.34	50.0		56.3		62.5	
150			150	0.28	60.0		67.5		75.0	
** 1 kg = 9.81N **										

TR SERIES (JIS B5012)

Model	Outer Dia. (mm)	Inner Dia. (mm)	Free Length (mm)	Spring Const. (kgf/mm)	Free Length X 40%		Free Length X 45%		Free Length X 50%	
					Defection	Load	Defection	Load	Defection	Load
					(mm)	kgf {N}	(mm)	kgf {N}	(mm)	kgf {N}
TR 26 x 30			30	2.75	12.0	33.0 {323.6}	13.5	37.0 {362.8}	15.0	41.0 {402.1}
35			35	2.36	14.0		15.8		17.5	
40			40	2.06	16.0		18.0		20.0	
45			45	1.83	18.0		20.3		22.5	
50			50	1.65	20.0		22.5		25.0	
55			55	1.50	22.0		24.8		27.5	
60			60	1.38	24.0		27.0		30.0	
65			65	1.27	26.0		29.3		32.5	
70			70	1.18	28.0		31.5		35.0	
75			75	1.10	30.0		33.8		37.5	
80			80	1.03	32.0		36.0		40.0	
90			90	0.92	36.0		40.5		45.0	
100			100	0.83	40.0		45.0		50.0	
110			110	0.75	44.0		49.5		55.0	
125			125	0.66	50.0		56.3		62.5	
150			150	0.55	60.0		67.5		75.0	
175			175	0.47	70.0		78.8		87.5	
200			200	0.41	80.0		90.0		100.0	
DR 32 x 40	32.0	21.0	40	2.56	16.0	41.0 {402.1}	18.0	46.0 {451.1}	20.0	51.0 {500.1}
45			45	2.28	18.0		20.3		22.5	
50			50	2.05	20.0		22.5		25.0	
60			60	1.71	24.0		27.0		30.0	
70			70	1.46	28.0		31.5		35.0	
80			80	1.28	32.0		36.0		40.0	
90			90	1.14	36.0		40.5		45.0	
100			100	1.03	40.0		45.0		50.0	
110			110	0.93	44.0		49.5		55.0	
125			125	0.82	50.0		56.3		62.5	
150			150	0.68	60.0		67.5		75.0	
175			175	0.59	70.0		78.8		87.5	
200			200	0.51	80.0		90.0		100.0	
250			250	0.41	100.0		112.5		125.0	
300			300	0.34	120.0		135.0		150.0	
DR 39 x 40	39.0	26.0	40	2.75	16.0	44.0 {431.5}	18.0	50.0 {409.3}	20.0	55.0 {539.4}
45			45	2.44	18.0		20.3		22.5	
50			50	2.20	20.0		22.5		25.0	
60			60	1.83	24.0		27.0		30.0	
70			70	1.57	28.0		31.5		35.0	
80			80	1.38	32.0		36.0		40.0	
90			90	1.22	36.0		40.5		45.0	
100			100	1.10	40.0		45.0		50.0	
110			110	1.00	44.0		49.5		55.0	
125			125	0.88	50.0		56.3		62.5	
150			150	0.73	60.0		67.5		75.0	
175			175	0.63	70.0		78.8		87.5	
200			200	0.55	80.0		90.0		100.0	
250			250	0.44	100.0		112.5		125.0	
300			300	0.37	120.0		135.0		150.0	
DR 46 x 50			50	2.50	20.0	50.0 {490.3}	22.5	56.0 {549.2}	25.0	62.0 {608.0}
60			60	2.08	24.0		27.0		30.0	
70			70	1.79	28.0		31.5		35.0	
80			80	1.56	32.0		36.0		40.0	
90			90	1.39	36.0		40.5		45.0	
100			100	1.25	40.0		45.0		50.0	
110			110	1.14	44.0		49.5		55.0	
125			125	1.00	50.0		56.3		62.5	
150			150	0.83	60.0		67.5		75.0	
175			175	0.71	70.0		78.8		87.5	
200			200	0.63	80.0		90.0		100.0	
250			250	0.50	100.0		112.5		125.0	
300			300	0.42	120.0		135.0		150.0	

** 1 kg = 9.81N **