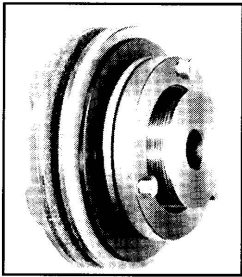


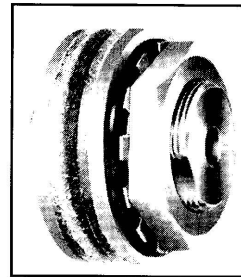
# TORQUE LIMITERS

## Prevent Machine Damage and Eliminate Costly Downtime



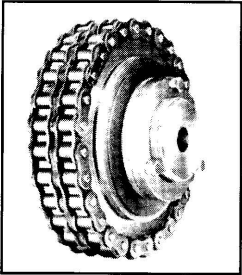
TL500<sup>-1</sup>/<sub>-2</sub> TL700<sup>-1</sup>/<sub>-2</sub>

- Three Bolt Adjustment
- Torque preset by the three bolts (an adjustment nut to fix a pilot plate in place)



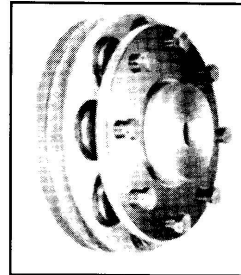
TL200<sup>-1</sup>/<sub>-2</sub> TL250<sup>-1</sup>/<sub>-2</sub>  
TL350<sup>-1</sup>/<sub>-2</sub>

- Single Nut Adjustment
- Lock Washer to prevent the nut from loosening



TL200<sup>-1</sup>/<sub>-2</sub> C thru. TL20<sup>-6</sup>/<sub>-12</sub> C

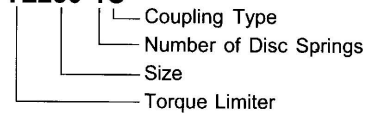
The Torque Limiter Coupling combines overload slip protection with the ability to couple driving and driven shafts. It is an assembly consisting of a Torque Limiter and Roller Chain Coupling. This construction provides a dependable and easy-to-assemble flexible coupling.



TL10<sup>-16</sup>/<sub>-24</sub> TL14<sup>-15</sup>/<sub>-15</sub>  
TL20<sup>-6</sup>/<sub>-12</sub>

- 5 to 8 Bolt Adjustment
- Each spring backed up by one adjustment bolt
- Each bolt has a hole through its head for a wire to prevent loosening

### TL250-1C



## SELECTION

- Determine the required slip torque from the loading conditions or from the design strength of the machine. If the loading conditions of the machine are unknown, set the required slip torque of the torque limiter to 1.5~2 times the torque that the motor produces on the shaft where the torque limiter is mounted
- Select a torque limiter which has enough torque range and bore range.
- Determine the proper bushing length from the thickness of the center member to be inserted between the friction facings. Always choose the largest bushing which does not exceed the width of the center member. Max. thickness of the center member is shown as "S max." in the dimension table.

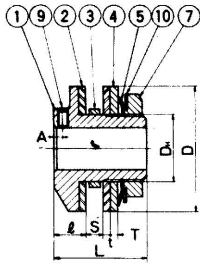
## CENTER MEMBER

- The center member should be machined on its rubbing surface to obtain the rated torque and be flat, parallel, square with bore, and free from rust, scale, and oil. Surface finish recommended in 3s-6s (63 micro inches finish).  
If the center member is not in accordance with these Specifications, the slip torque will be erratic.
- Bore of the center member to be machined is shown in the table below. Also, min. number of sprocket teeth to be used and bushing length to be chosen are listed in the table below.

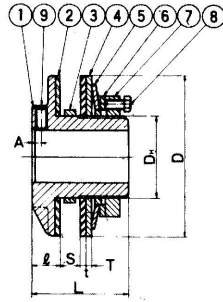
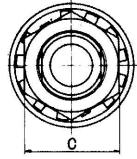
Size	Bore Of Member (mm)	Minimum Sprocket Teeth Bushing Length																		
		Sprocket and Number of Teeth																		
		3/8"- #35		1/2"- #40		5/8"- #50		3/4"- #60		1"- #80		1 1/4"- #100		1 1/2"- #120		1 3/4"- #140		2"- #160		
Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	Sprocket Min. Teeth	Bush Length (mm)	
TL200	30+0.03 0	20	3.8	16	6															
TL250	41+0.05 0			20	4.5	17	6.5													
TL350	49+0.05 0			26	4.5	21	6.5	18	9.5	15	9.5									
TL500	74+0.05 0					29	6.5	25	9.5	19	9.5									
TL700	105+0.05 0							33	9.5	26	9.5	21	12.5	18	12.5					
TL10	135+0.07 0											29	12.5	24	15.5	22	19.5			
TL14	183+0.07 0											39	15.5	33	15.5	29	19.5	26	23.5	
TL20	226+0.07 0											54	15.5	46	15.5	40	19.5	35	23.5	

# TORQUE LIMITERS

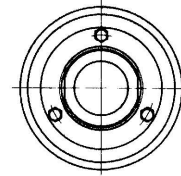
## Dimensions and Capacity for TL200<sup>-1</sup>/<sub>2</sub> through TL 700<sup>-1</sup>/<sub>2</sub>



TL200 · TL250 · TL350



TL500 · TL700

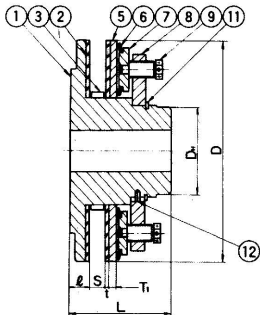


### Name of Parts

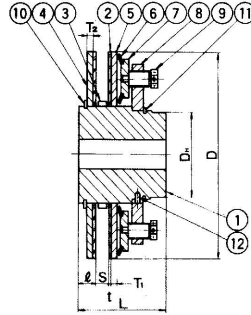
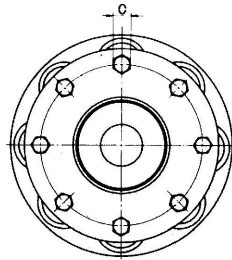
- ① Hub
- ② Friction Facing
- ③ Bushing
- ④ Pressure Plate
- ⑤ Disc Spring
- ⑥ Pilot Plate
- ⑦ Adjustment Nut
- ⑧ Adjustment Bolt
- ⑨ Set Screw
- ⑩ Lock Washer

Size	Torque Range (kgf-m)	Plain Bore	Max. Bore	Bush. Length	O.D. of Bush.	Bore for Center Member	D	DH	L	I	T	t	S (max.)	A	C	Adjust. Nut	Adjust. Bolt	Set Screw	Weight (kgf)
TL200-1	0.3~1	7	14	3.8	30 <sup>-0.024</sup>	30 <sup>+0.03</sup>	50	24	29	6.5	2.6	2.5	7	-	38	M24	-	-	0.2
TL200-2	0.7~2			6.0	30 <sup>-0.049</sup>	30 <sup>0</sup>													
TL250-1	0.7~2.8	10	22	4.5	41 <sup>-0.010</sup>	41 <sup>+0.05</sup>	65	35	48	16	4.5	3.2	9	4	50	M35	-	M5	0.6
TL250-2	1.4~5.5			6.5	41 <sup>-0.045</sup>	41 <sup>0</sup>													
TL350-1	2.0~7.6	17	25	4.5	49 <sup>-0.025</sup>	49 <sup>+0.05</sup>	89	42	62	19	4.5	3.2	16	6	63	M42	-	M6	1.2
TL350-2	3.5~15.2			6.5	49 <sup>-0.065</sup>	49 <sup>0</sup>													
TL500-1	4.8~21.4	20	42	6.5	74 <sup>-0.05</sup>	74 <sup>+0.05</sup>	127	65	76	22	5.7	3.2	16	7	-	M65	M8 P1.0	M8	3.5
TL500-2	9~42.9			9.5	74 <sup>-0.10</sup>	74 <sup>0</sup>													
TL700-1	11.8~58.1	30	64	9.5	105 <sup>-0.075</sup>	105 <sup>+0.05</sup>	178	95	98	24	7.7	3.2	29	8	-	M95	M10 P1.25	M10	8.4
TL700-2	22.8~110.6			12.5	105 <sup>-0.125</sup>	105 <sup>0</sup>													

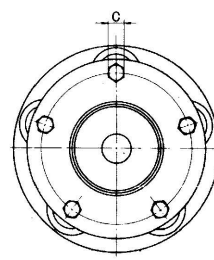
## Dimensions and Capacity for TL10<sup>-16</sup>/<sub>24</sub> through TL 20<sup>-6</sup>/<sub>12</sub>



TL10



TL14 · TL20



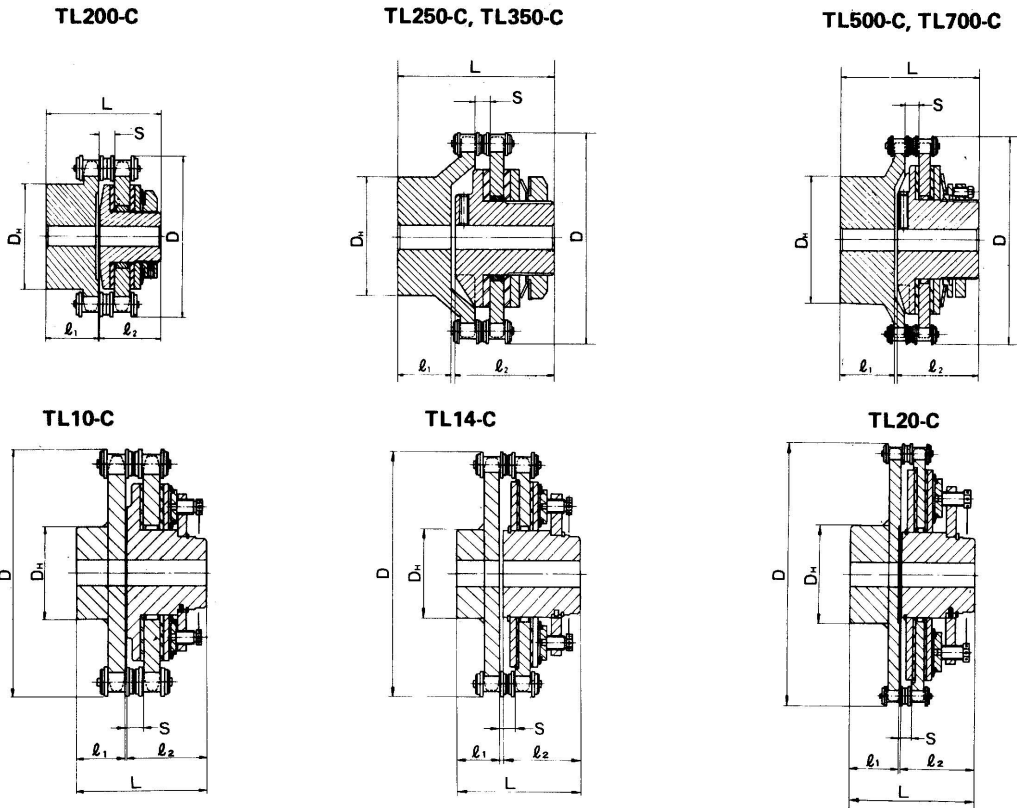
### Name of Parts

- ① Hub
- ② Friction Facing
- ③ Bushing
- ④ Plate A
- ⑤ Plate B
- ⑥ Disc Spring
- ⑦ Pressure Plate
- ⑧ Pilot Plate
- ⑨ Adjustment Bolt
- ⑩ Snap Ring
- ⑪ Spirolox
- ⑫ Spring Pin

Size	Torque Range (kgf-m)	Plain Bore (H10)	Max. Bore	Bush. Length	O.D. of Bush.	Bore for Center Member	D	DH	L	I	T <sub>1</sub>	T <sub>2</sub>	t	S (max.)	C	Adjustment Bolt	Weight (kgf)
TL10-16	40~130	30	72	12.5	135 <sup>-0.085</sup>	135 <sup>+0.07</sup>	254	100	115	23	15	-	4.0	24	19	M18 P1.5	21
TL10-24	60~190			15.5	135 <sup>-0.125</sup>	135 <sup>0</sup>											
TL14-10	90~272	40	100	15.5	183 <sup>-0.07</sup>	183 <sup>+0.07</sup>	356	145	150	31	13	13	4.0	29	27	M26 P1.5	52
TL14-15	200~400			19.5	183 <sup>-0.12</sup>	183 <sup>0</sup>											
TL20-6	250~500	50	130	15.5	226 <sup>-0.07</sup>	226 <sup>+0.07</sup>	508	185	175	36	15	18	4.0	31	36	M32 P1.5	117
TL20-12	470~950			19.5	226 <sup>-0.12</sup>	226 <sup>0</sup>											

# TORQUE LIMITER COUPLING

## Dimensions and Capacity for TL200<sup>-1</sup>/<sub>2</sub> C through TL 20<sup>-6</sup>/<sub>12</sub> C



Size	Torque Range (kg·m)	Max. Running Speed (rpm)	Plain Bore		Max. Bore		Sprocket	D	D <sub>H</sub>	L	l <sub>1</sub>	l <sub>2</sub>	S	Weight (kgf)
			Coupling Half	TL Half	Coupling Half	TL Half								
TL200-1C	0.3~1	1200	8	7	31	14	RS 40-16T	76	50	55	24	29	7.5	1.0
TL200-2C	0.7~3													
TL250-1C	0.7~2.8	1000	13	10	38	22	RS 40-22T	102	56	76	25	48	7.4	1.9
TL250-2C	1.4~5.5													
TL350-1C	2.0~7.6	800	13	17	45	25	RS 50-24T	137	72	103	37	62	9.7	4.2
TL350-2C	3.5~15.2													
TL500-1C	4.8~21.4	500	18	20	65	42	RS 60-28T	188	105	120	40	76	11.6	10.0
TL500-2C	9~42.9													
TL700-1C	11.8~58.1	400	23	30	90	64	RS 80-28T	251	150	168	66	98	15.3	26.0
TL700-2C	22.8~110.6													
TL10 -16C	40~130	300	33	30	95	72	RS 140-22T	355	137	189	71	115	26.2	66
TL10 -24C	60~190													
TL14 -10C	90~272	200	38	40	118	100	RS 160-26T	470	167	235	80	150	30.1	140
TL14 -15C	200~400													
TL20 -6C	250~500	140	43	50	150	130	RS 160-36T	631	237	300	120	175	30.1	285
TL20 -12C	470~950													

Note : When the Torque Limiter coupling is run at max. running speed, the chain and sprocket should be lubricated with MoS<sub>2</sub> or grease and covered. Consult when a higher speed is required than those listed above.