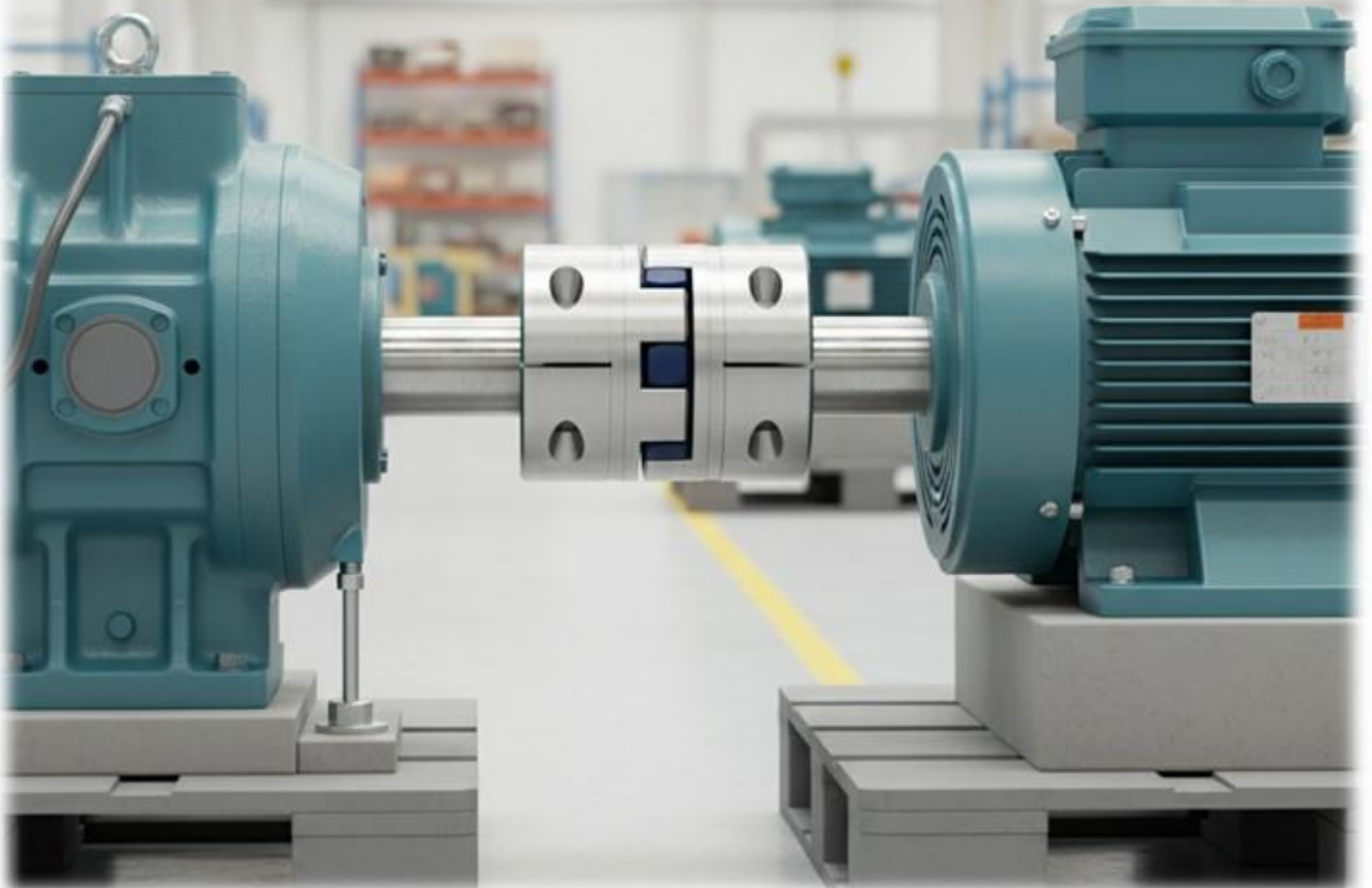


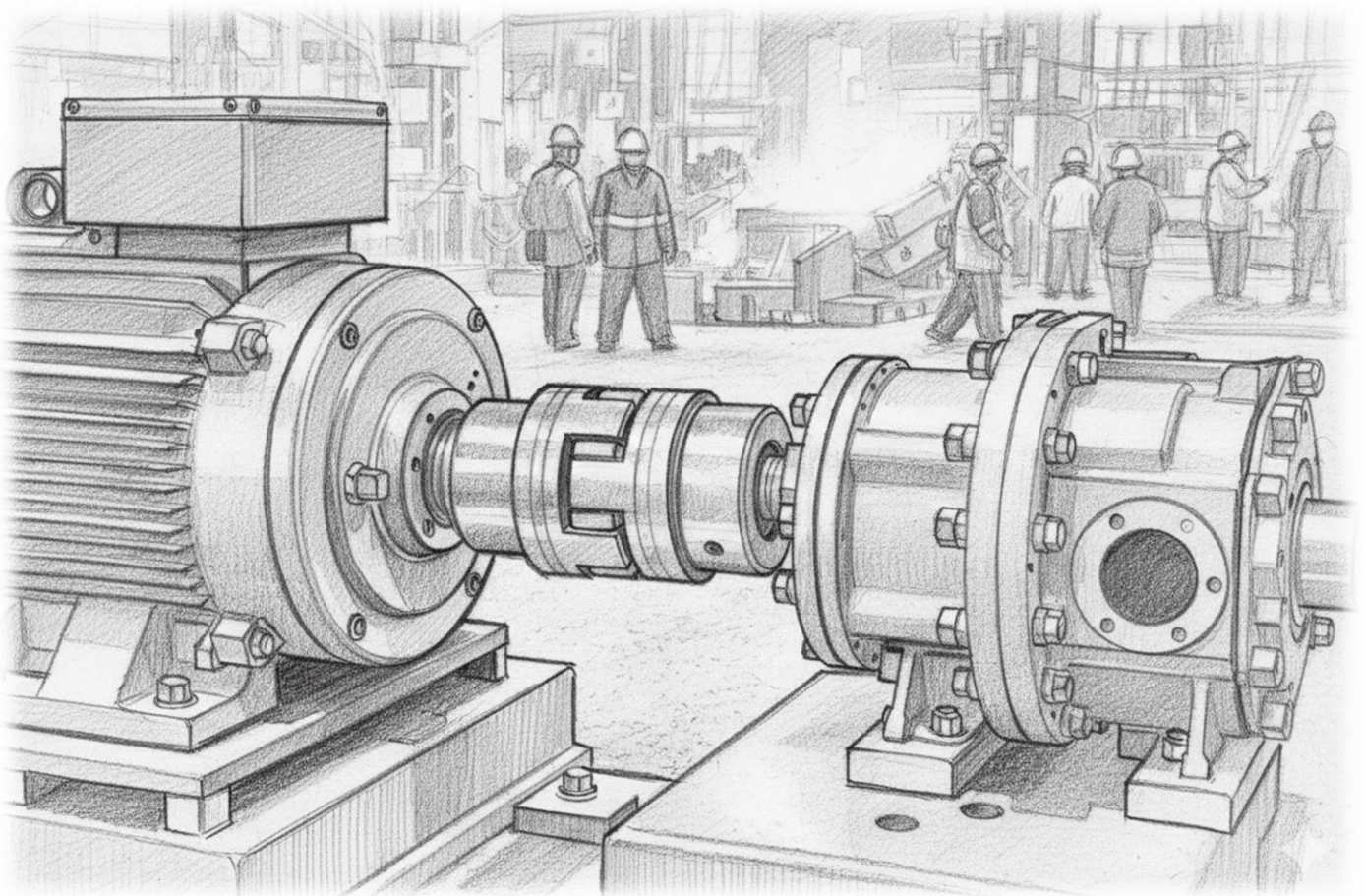
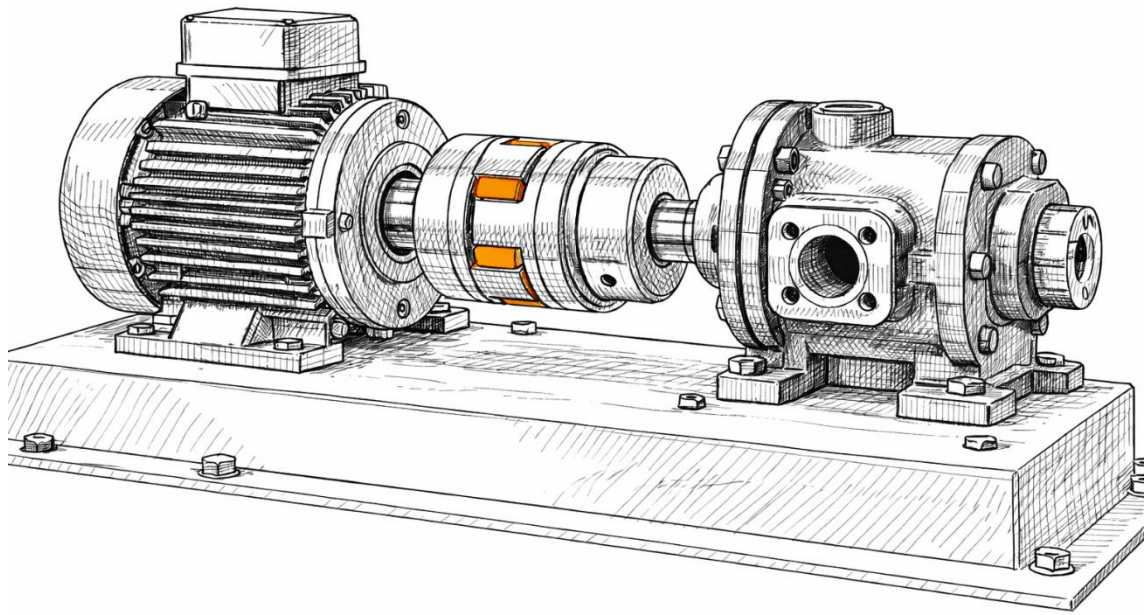


TrueTorg Private Limited



TT Couplings





INDEX OF SUBJECTS

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TT COUPLINGS

Properties of jaw couplings

Parameters	
Product	TT Couplings
Type	Torsionally flexible jaw coupling
Properties	
Torsionally flexible	•
Damping vibrations	•
Maintenance-free	•
Axial plug-in	•
Shear type	•
Fail-safe	•
Compensating for misalignment	•
Performance data	
Max. rated torque [Nm]	35000
Max. speed n [rpm]	10000
Max. operating temperature T [°C]	-40 °C to +150 °C
Standard materials	
Hub materials available	
Steel	EN8 (080M40 as per BS970)
Cast iron >> subject to mould	EN-GJL-250
Aluminium	T6-6061
Stainless steel	SS 316
Spiders / elastomers	
Material	Polyurethane PU
Hardness	98Sh-A 64Sh-D
Degree of hardness	flexible to torsionally stiff
Temperature range in °C, min. / max. (standard)	-40 / +120
Surface coating	
Surface finishing	Phosphating, Glass Beading
Types (extract)	
Elastomers can be radially disassembled >> without displacing driving/driven side	AH,SH
Intermediate shaft types	•
Standard spacers 100 mm to 250 mm	•
Double-cardanic >> compensating for big displacements, lower restoring forces	•

• : Standard

TT COUPLINGS

DIN 740 Part II – Coupling Selection Method

Coupling Selection

Summary Flow (DIN 740 Part II)

Power → Torque → Service Factor → Design Torque → Coupling Size → Bore → Speed → Balance

1. Required Input Data
 - Power (P) – kW
 - Speed (n) – rpm
 - Driver– Electric motor / Diesel engine / Turbine
 - Driven machine – Pump / Fan / Compressor / Crusher, etc.
2. Rated Torque Calculation
 T_n (Nm)

Where:
 - P = Power (kW)
 - n = Speed (rpm)
$$T_n = \frac{9550 \times P}{n}$$
3. Service Factor (SF)
Refer page no.....6
DIN 740 Part II introduces specific service factors based on driver + driven equipment.
4. Design Torque
 T_d

Where:
 - T_d = Design torque (Nm)
 - T_n = Rated torque
 - SF = Service factor
$$T_d = T_n \times SF$$
5. Coupling Selection
Criteria
 - Torque Capacity
 - Bore Capacity
 - Speed Limit
$$T_{coupling} \geq T_d$$
$$n_{max_coupling} \geq n_{operating}$$
6. Balancing Requirement

Speed / Circumferential Speed	Recommended Balance
<1800 rpm *	G 6.3
1800–3000 rpm	G 2.5
High-speed / precision	G 1.0

*Circumferential Speed (m/s)

Where:

- D = outer diameter in meter
- N = speed in RPM

$$v = \frac{\pi D N}{60}$$

- For circumferential speeds exceeding $v = 30$ m/s dynamic balancing is required for cast iron.
- For circumferential speeds exceeding $v = 35$ m/s dynamic balancing is required for steel.

TT COUPLINGS

Service Factor

Factors

Application		Application	
Construction machinery		Mixers	
Manoeuvre hoists	1.50 - 2.00	Constant density	1.75 - 2.25
Swing gears	1.50 - 2.00	Variable density	2.00 - 2.50
Miscellaneous winches	1.50 - 2.00	Grinders	
Filters, cable winches	1.75 - 2.25	Centrifugal mills	1.75 - 2.00
Multi-bucket excavators	1.75 - 2.25	Beater mills	1.75 - 2.00
Running gears (caterpillar)	1.75 - 2.25	Autogenous mills	1.75 - 2.00
Impellers	1.75 - 2.25	Hammer and ball mills	2.00 - 2.50
Cutter drives	2.00 - 2.50	Food industry	
Elevators	1.50 - 2.00	Sugarcane harvesters	1.25 - 1.50
Conveyor systems		Sugar-beet harvesters	1.25 - 1.50
Bucket elevators	1.50 - 2.00	Sugar-beet washing	1.25 - 1.50
Elevators	1.75 - 2.25	Kneading machines	1.75 - 2.00
Hauling winches	1.50 - 2.00	Sugarcane breakers	1.75 - 2.00
Apron conveyors	1.25 - 1.75	Sugarcane mills	1.75 - 2.00
Rubber belt conveyors (bulk)	1.25 - 1.75	Oil industry	
Boom plate bucket conveyors	1.25 - 1.75	Filter presses for paraffin	1.50 - 2.00
Rotary conveyors	1.50 - 1.75	Rotary furnaces	1.75 - 2.00
Steel plate conveyors	1.50 - 1.75	Paper machines	
Worm conveyors	1.25 - 1.50	Couch rolls	1.75 - 2.25
Steel belt conveyors	1.75 - 2.00	Calanders	1.75 - 2.25
Conveyors	1.75 - 2.00	Wet presses	1.75 - 2.25
Rubber belt conveyors (bulk)	1.75 - 2.00	Pumps	
Inclined lifts	1.75 - 2.00	Radial pumps	1.25 - 1.75
Shaking slides	2.00 - 2.25	Centrifugal pumps (light liquid)	1.50 - 2.00
Generators		Centrifugal pumps (viscous liquid)	2.25 - 2.50
Frequency converters	1.75 - 2.00	Gear and vane pumps	1.50 - 1.75
Generators	1.50 - 2.00	Piston pumps, plunger pumps and press pumps	2.00 - 2.50
Rubber & nylon industry		Agitators	
Rubber calanders and rolling mills	1.25 - 2.00	Light liquid	1.25 - 1.50
Mixers	1.25 - 2.00	Viscous liquid	1.50 - 1.75
Extruders	1.25 - 2.00	Liquid with constant density	1.25 - 1.50
Lifters/cranes		Liquid with variable density	1.50 - 2.00
Bridge cranes for steel industry	2.00 - 2.25	Textile industry	
Cranes (heavy load operation)	2.00 - 2.25	Winders	1.25 - 1.75
Running gears	1.75 - 2.25	Printing and dyeing machines	1.25 - 1.75
Lifting gears	1.75 - 2.25	Shredders	1.50 - 2.00
Woodworking machinery		Fans, ventilators and blowers	
Planing machines	1.50 - 1.75	Light-weight fans	1.25 - 1.75
Barking machines	1.75 - 2.00	Large fans	1.75 - 2.50
Saw frames	1.75 - 2.00	Centrifugal fans	1.25 - 1.50
Compressors		Industrial fans	1.25 - 1.50
Centrifugal compressors	1.50 - 2.00	Rotary blowers	1.25 - 1.75
Rotary compressors	1.50 - 2.00	Fans (axial/radial)	1.25 - 1.75
Turbo compressors	2.00 - 2.50	Fans for cooling towers	1.50 - 2.00
Piston compressors	2.50 - 3.00	Wastewater treatment plants	
Metal industry		Rakes	1.25 - 1.50
Wire pulls	1.25 - 1.50	Worm pumps	1.25 - 1.50
Winders	1.25 - 1.50	Concentrators	1.25 - 1.50
Winding drums	1.50 - 2.00	Mixers	1.25 - 1.75
Wire drawing machines	2.00 - 2.50	Aerators	1.75 - 2.00
Plate shears	2.00 - 2.50	Machine tools	
Block pushers	2.00 - 2.50	Scissors	1.50 - 2.00
Blooming and slabbing	2.00 - 2.50	Dressing rollers	1.50 - 2.00
De-scalers	2.00 - 2.50	Bending machines	1.50 - 2.00
Hot-rolling mills	2.00 - 2.50	Hole punching machines	1.75 - 2.50
Cold-rolling mills	2.00 - 2.50	Levelling machines	1.75 - 2.50
Billet shears	2.00 - 2.50	Hammers	1.75 - 2.50
Plugging machines	2.00 - 2.50	Presses	1.75 - 2.50
Continuous casting machines	2.00 - 2.50	Forging presses	1.75 - 2.50
Shifting devices	2.00 - 2.50	Other	
Application	2.00 - 2.50	Equipment for transport of persons	2.00 - 2.50
Roller tables (heavy-weight)	2.00 - 2.50	Rock crushers	2.50 - 3.00
		Rolling mill drives	2.00 - 2.50

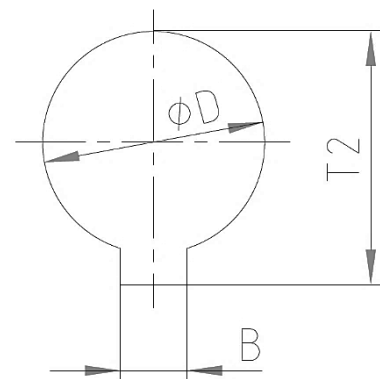
TT COUPLINGS

Cylindrical bores and inch bores

Bore and keyway

ØD [mm]	ØD [inch]	B [mm]	B [inch]	T2 [mm]
Ø6 H7 +0.012		2 JS9 ±0.0125		7 +0.1
Ø8 H7 +0.015		2 JS9 ±0.0125		9 +0.1
Ø9 H7 +0.015		3 JS9 ±0.0125		10.4 +0.1
Ø9.525 +0.0254	3/8	3.175 +0.051	1/8	10.972 +0.381
Ø10 H7 +0.015		3 JS9 ±0.0125		11.4 +0.1
Ø11 H7 +0.018		4 JS9 ±0.015		12.8 +0.1
Ø11.112 +0.0254	7/16	2.382 +0.051	3/32	12.293 +0.381
Ø12 H7 +0.018		4 JS9 ±0.015		13.8 +0.1
Ø12.7 +0.0254	1/2	3.175 +0.051	1/8	14.224 +0.381
Ø12.7 +0.0254	1/2	4.762 +0.051	3/16	14.757 +0.381
Ø13.495 +0.0254	17/32	3.175 +0.051	1/8	15.011 +0.381
Ø14 H7 +0.018		5 JS9 ±0.015		16.3 +0.1
Ø14.287 +0.0254	9/16	3.175 +0.051	1/8	15.824 +0.381
Ø15 H7 +0.018		5 JS9 ±0.015		17.3 +0.1
Ø15.875 +0.0254	5/8	3.175 +0.051	1/8	17.424 +0.381
Ø15.875 +0.0254	5/8	3.968 +0.051	5/32	17.729 +0.381
Ø15.875 +0.0254	5/8	4.762 +0.051	3/16	18.008 +0.381
Ø16 H7 +0.018		5 JS9 ±0.015		18.3 +0.1
Ø17 H7 +0.018		5 JS9 ±0.015		19.3 +0.1
Ø17.462 +0.0254	11/16	4.762 +0.051	3/16	19.634 +0.381
Ø18 H7 +0.018		6 JS9 ±0.015		20.8 +0.1
Ø19 H7 +0.021		6 JS9 ±0.015		21.8 +0.1
Ø19.05 +0.0254	3/4	3.175 +0.051	1/8	20.624 +0.381
Ø19.05 +0.0254	3/4	4.762 +0.051	3/16	21.259 +0.381
Ø20 H7 +0.021		6 JS9 ±0.015		22.8 +0.1
Ø22 H7 +0.021		6 JS9 ±0.015		24.8 +0.1
Ø22.225 +0.0254	7/8	4.762 +0.051	3/16	24.485 +0.381
Ø22.225 +0.0254	7/8	6.35 +0.051	1/4	25.069 +0.381
Ø23.812 +0.0254	15/16	6.35 +0.051	1/4	26.695 +0.381
Ø24 H7 +0.021		8 JS9 ±0.018		27.3 +0.2
Ø25 H7 +0.021		8 JS9 ±0.018		28.3 +0.2
Ø25.4 +0.0254	1	4.762 +0.051	3/16	27.686 +0.381
Ø25.4 +0.0254	1	6.35 +0.051	1/4	28.295 +0.381
Ø26.987 +0.0254	1 1/16	4.762 +0.051	3/16	29.286 +0.381
Ø28 H7 +0.021		8 JS9 ±0.018		31.3 +0.2
Ø28.575 +0.0254	1 1/8	6.35 +0.051	1/4	31.521 +0.381
Ø28.575 +0.0254	1 1/8	7.937 +0.051	5/16	32.105 +0.381
Ø30 H7 +0.021		8 JS9 ±0.018		33.3 +0.2
Ø31.75 +0.0254	1 1/4	6.35 +0.051	1/4	34.721 +0.381
Ø31.75 +0.0254	1 1/4	7.937 +0.051	5/16	35.331 +0.381
Ø32 H7 +0.025		10 JS9 ±0.018		35.3 +0.2

Ø34.925 +0.0254	1 3/8	7.937 +0.051	5/16	38.557 +0.381
Ø34.925 +0.0254	1 3/8	9.525 +0.0635	3/8	39.141 +0.381
Ø35 H7 +0.025		10 JS9 ±0.018		38.3 +0.2
Ø36.512 +0.0254	1 7/16	9.525 +0.0635	3/8	40.767 +0.381
Ø38 H7 +0.025		10 JS9 ±0.018		41.3 +0.2
Ø38.1 +0.0254	1 1/2	7.937 +0.051	5/16	41.783 +0.381
Ø38.1 +0.0254	1 1/2	9.525 +0.0635	3/8	42.392 +0.381
Ø40 H7 +0.025		12 JS9 ±0.0215		43.3 +0.2
Ø41.275 +0.0254	1 5/8	9.525 +0.0635	3/8	45.618 +0.381
Ø42 H7 +0.025		12 JS9 ±0.0215		45.3 +0.2
Ø44.45 +0.0254	1 3/4	9.525 +0.0635	3/8	48.818 +0.381
Ø44.45 +0.0254	1 3/4	11.112 +0.0635	7/16	49.428 +0.381
Ø45 H7 +0.025		14 JS9 ±0.0215		48.8 +0.2
Ø47.625 +0.0254	1 7/8	12.7 +0.0635	1/2	53.238 +0.381
Ø48 H7 +0.025		14 JS9 ±0.0215		51.8 +0.2
Ø49.212 +0.0254	1 15/16	12.7 +0.0635	1/2	54.864 +0.381
Ø50 H7 +0.025		14 JS9 ±0.0215		53.8 +0.2
Ø50.8 +0.0254	2	12.7 +0.0635	1/2	56.464 +0.381
Ø53.975 +0.0381	2 1/8	12.7 +0.0635	1/2	59.69 +0.381
Ø55 H7 +0.03		16 JS9 ±0.0215		59.3 +0.2
Ø57.15 +0.0381	2 1/4	12.7 +0.0635	1/2	62.915 +0.381
Ø60 H7 +0.03		18 JS9 ±0.0215		64.4 +0.2
Ø60.325 +0.0381	2 3/8	15.875 +0.076	5/8	67.335 +0.381
Ø65 H7 +0.03		18 JS9 ±0.0215		69.4 +0.2
Ø70 H7 +0.03		20 JS9 ±0.026		74.9 +0.2
Ø75 H7 +0.03		20 JS9 ±0.026		79.9 +0.2
Ø80 H7 +0.03		22 JS9 ±0.026		85.4 +0.2
Ø85 H7 +0.035		22 JS9 ±0.026		90.4 +0.2
Ø85.725 +0.0381	3 3/8	22.225 +0.076	7/8	95.504 +0.381
Ø90 H7 +0.035		25 JS9 ±0.026		95.4 +0.2
Ø92.075 +0.0381	3 5/8	22.225 +0.076	7/8	101.955 +0.381
Ø100 H7 +0.035		28 JS9 ±0.026		106.4 +0.2



TT COUPLINGS

Speeds

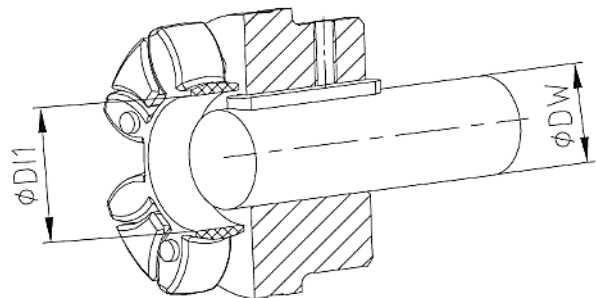
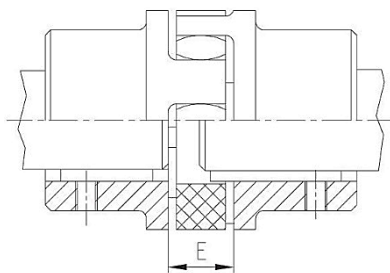
Speeds

Maximum speeds of hub versions/types													
TTC Sizes	Maximum speed [rpm]									Maximum speed [rpm] depending on outside Ø of brake drum/disk			
	1.0 / 1.1 / 1.3		2.0 / 2.1 /2.3 / 7.5 /7.6 / 7.8 /7.9	6	7.1	3b / 3Na / 4N	DKM/ ZS- DKM	ZR	ZRS	Brake drum(steel)		Brake disk(steel)	
	Steel, GJS, Al-H	Al-D								Outside Ø [mm]	[rpm]	Outside Ø [mm]	[rpm]
14	10000	3600	-	See TTS Design 6.0	-	-	-	Depending on the application	Depending on the application	160	6000	200	8600
19	10000	3600	10000		-	-	3600			200	4800	250	6850
24	10000	3600	8600		10000	10000	3600			250	3800	315	5500
28	10000	3600	7300		8800	10000	3600			315	3000	355	4850
38	9500	3600	6000		7200	9500	3600			400	2400	400	4300
42	8000	3600	5000		6000	8000	3600			500	1900	450	3800
48	7200	3600	4500		5500	7200	3600			630	1500	500	3500
55	6300	-	4000		4800	6300	3600			630	1500	560	3050
65	5600	-	3600		4200	5600	3600			710	1350	630	2700
75	4700	-	3000		3600	4700	3600			710	1350	710	2400
90	3800	-	2400		3000	3800	3000			800	1200	800	2150
100	3600	-	2100		-	3600	-					900	1900
Balancing necessary from a circumferential speed of (below)													
	v = 30 m/s	●	v = 20 m/s		v = 30 m/s	●	●	●		v = 30 m/s		v = 30 m/s	

• On request

* Depending on the application, balancing may also be required with lower circumferential speeds.

Installation of spiders

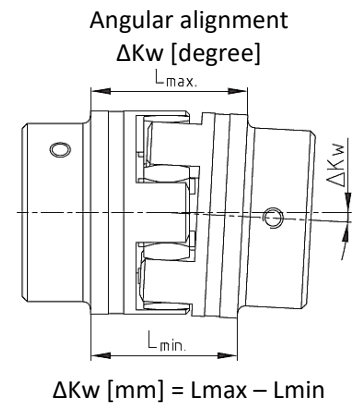
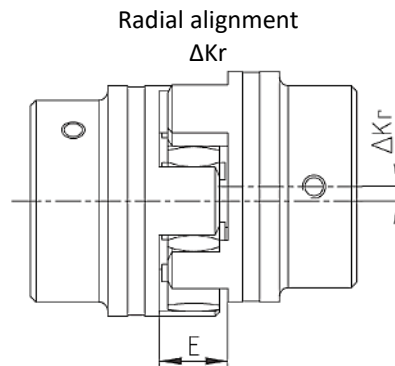
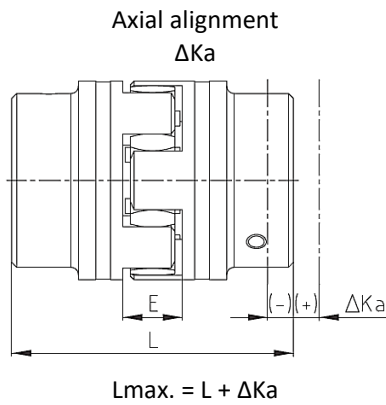


Mounting dimensions												
TTC Size	14	19	24	28	38	42	48	55	65	75	90	100
Distance dimension E [mm]	13	16	18	20	24	26	28	30	35	40	45	50
Dimension DI1 [mm]	10	18	27	30	38	46	51	60	68	80	100	113
Dimension DW [mm]	7	12	20	22	28	36	40	48	55	65	80	95

TT COUPLINGS

Speeds and alignments

Alignments



Displacements for spider 98 Shore A												
TTC Size	14	19	24	28	38	42	48	55	65	75	90	100
Max. axial displacement ΔK_a [mm]	-0.5	-0.5	-0.5	-0.7	-0.7	-1	-1	-1	-1	-1.5	-1.5	-1.5
	1	1.2	1.4	1.5	1.8	2	2.1	2.2	2.6	3	3.4	3.8
Max. radial displacement with $n=1500$ rpm ΔK_r [mm]	0.17	0.2	0.22	0.25	0.28	0.32	0.36	0.38	0.42	0.48	0.5	0.52
Max. angular displacement with $n=1500$ rpm ΔK_w [degree]	1.2	1.2	0.9	0.9	1	1	1.1	1.1	1.2	1.2	1.2	1.2
ΔK_w [mm]	0.67	0.82	0.85	1.05	1.35	1.7	2	2.3	2.7	3.3	4.3	4.8

Displacements for spider 64 Shore D												
TTC Sizes	14	19	24	28	38	42	48	55	65	75	90	100
Max. axial displacement ΔK_a [mm]	-0.5	-0.5	-0.5	-0.7	-0.7	-1.0	-1.0	-1.0	-1.0	-1.5	-1.5	-1.5
	+1.0	+1.2	+1.4	+1.5	+1.8	+2.0	+2.1	+2.2	+2.6	+3.0	+3.4	+3.8
Max. radial displacement with $n=1500$ rpm ΔK_r [mm]	0.11	0.13	0.15	0.18	0.21	0.23	0.25	0.27	0.30	0.34	0.36	0.37
Max. angular displacement with $n=1500$ rpm ΔK_w [degree]	1.1	1.1	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.1
ΔK_w [mm]	0.57	0.76	0.76	0.90	1.25	1.40	1.80	2.00	2.50	3.00	3.80	4.30

• The specified permissible alignment figures of the flexible TTC couplings are standard values taking into account the load of the coupling up to the rated torque and an operating speed $n = 1500$ rpm along with an ambient temperature of $+30$ °C.

• The alignment figures may only be used one by one, if they appear simultaneously, they must be limited in proportion. Care should be taken to maintain the distance dimension E accurately in order to allow for axial clearance of the coupling while in operation.

TT COUPLINGS

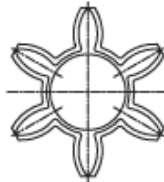
Properties of standard spiders

Spider

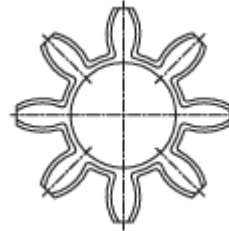
TTC 14



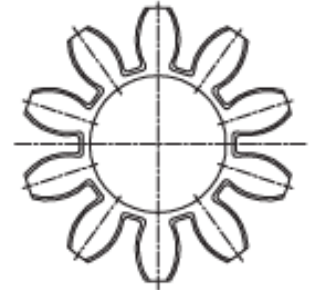
TTC 19



TTC 24-65



TTC 75-100



Spider type (Shore hardness)	98 Shore A	64 Shore D
		
Size	14 to 100	14 to 100
Material	Polyurethane (PUR)	Polyurethane (PUR)
Permissible temperature range		
Permanent temperature	-40 °C to +120 °C	-40 °C to +120 °C
Short-term temperature	-40 °C to +150 °C	-40 °C to +150 °C

Features of spider

- Significantly higher service life expectancy
- Very good temperature resistance
- Provides superior shock absorption and vibration damping
- Good resistance to oil, grease, and wear
- Transmission of high torques with medium damping
- Hub Material suitable for Spider shore hardness 98Sh-A and 64Sh-D
 - Aluminium (Al)
 - Cast Iron
 - Steel
- High-quality Polyurethane (PUR) spider for excellent elasticity
- Ensures long service life under cyclic loads
- Accommodates angular, parallel, and axial misalignment
- Polyurethane spider provides electrical isolation between shafts
- Even if the spider fails, jaws maintain engagement to prevent complete disconnection

TT COUPLINGS

Properties of standard spiders

Spider

98 Shore A spider made of PUR													
TTC Size	Torque [NM]				Torsion angle Φ with		Damping Power With +30 °C	Relative Damping ψ	Resonance factor V _R	Torsion Spring Stiffness C dyn. [Nm/rad]			
	DIN 740			TK max ≤ 1000 Load cycles						1.0 T _{KN}	0.75 T _{KN}	0.5 T _{KN}	0.25 T _{KN}
	Rated Nm	Max. Nm	Vibratory T _{KW}		T _{KN}	T _K max							
14	12.5	25	3.3	37.5	6.4°	10°	-	0.80	7.90	0.56x10 ³	0.46x10 ³	0.35x10 ³	0.21x10 ³
19	17	34	4.4	51	3.2°	5°	4.8			2.92x10 ³	2.39x10 ³	1.81x10 ³	1.07x10 ³
24	60	120	16	180			6.6			9.93x10 ³	8.14x10 ³	6.16x10 ³	3.65x10 ³
28	160	320	42	480			8.4			26.77x10 ³	21.95x10 ³	16.6x10 ³	9.84x10 ³
38	325	650	85	975			10.2			48.57x10 ³	39.83x10 ³	30.11x10 ³	17.85x10 ³
42	450	900	117	1350			12.0			54.5x10 ³	44.69x10 ³	33.79x10 ³	20.03x10 ³
48	525	1050	137	1575			13.8			65.3x10 ³	53.64x10 ³	40.48x10 ³	24x10 ³
55	685	1370	178	2055			15.6			95x10 ³	77.9x10 ³	58.88x10 ³	34.9x10 ³
65	940	1880	244	2820			18.0			129.5x10 ³	106.2x10 ³	80.3x10 ³	47.6x10 ³
75	1920	3840	499	5760			21.6			197.5x10 ³	162x10 ³	122.5x10 ³	72.6x10 ³
90	3600	7200	936	10800			30.0			312.2x10 ³	256x10 ³	193.6x10 ³	114.7x10 ³
100	4950	9900	1287	14850			36.0			383.3x10 ³	314.3x10 ³	237.6x10 ³	140.9x10 ³

64 Shore D spider made of PUR													
TTC Size	Torque [NM]				Torsion angle Φ with		Damping Power With +30°C	Relative Damping ψ	Resonance factor V _R	Torsion Spring Stiffness C dyn. [Nm/rad]			
	DIN 740			T _K max ≤ 1000 Load cycles						1.0 T _{KN}	0.75 T _{KN}	0.5 T _{KN}	0.25 T _{KN}
	Rated Nm	Max. Nm	Vibratory T _{KW}		T _{KN}	T _K max							
14	16	32	4.2	48	4.5°	7.0°	9	0.75	8.5	0.76x10 ³	0.62x10 ³	0.47x10 ³	0.28x10 ³
19	21	42	5.5	63			7.2			5.35x10 ³	4.39x10 ³	3.32x10 ³	1.97x10 ³
24	75	150	19.5	225			9.9			15.11x10 ³	12.39x10 ³	9.37x10 ³	5.55x10 ³
28	200	400	52	600			12.6			27.52x10 ³	22.57x10 ³	17.06x10 ³	10.12x10 ³
38	405	810	105	1215			15.3			70.15x10 ³	57.52x10 ³	43.49x10 ³	25.78x10 ³
42	560	1120	146	1680			18			79.9x10 ³	65.5x10 ³	49.52x10 ³	29.35x10 ³
48	655	1310	170	1965			20.7			95.5x10 ³	78.3x10 ³	59.22x10 ³	35.1x10 ³
55	825	1650	215	2475			23.4			107.9x10 ³	88.5x10 ³	66.9x10 ³	39.66x10 ³
65	1175	2350	306	3525			27			151.1x10 ³	123.9x10 ³	93.7x10 ³	55.53x10 ³
75	2400	4800	624	7200			32.4			248.2x10 ³	203.5x10 ³	153.9x10 ³	91.2x10 ³
90	4500	9000	1170	13500			45			674.5x10 ³	553.1x10 ³	418.2x10 ³	247.9x10 ³
100	6185	12370	1608	18555			54			861.2x10 ³	706.2x10 ³	533.9x10 ³	316.5x10 ³

Temperature factor										
	-40 °C +30 °C	+40 °C	+50 °C	+60 °C	+70 °C	+80 °C	+90 °C	+100 °C	+110 °C	+120 °C
PUR	1.0	1.0	1.3	1.4	1.55	1.8	2.2	—	—	—

- Unless the Shore hardness of spider is explicitly specified in your order, we will supply spiders with Shore hardness 98 Shore A (PUR)
- For circumferential speeds exceeding $v = 30$ m/s dynamic balancing is required for cast iron.
- For circumferential speeds exceeding $v = 35$ m/s dynamic balancing is required for steel.

TT COUPLINGS

Dimensional Data- Aluminum

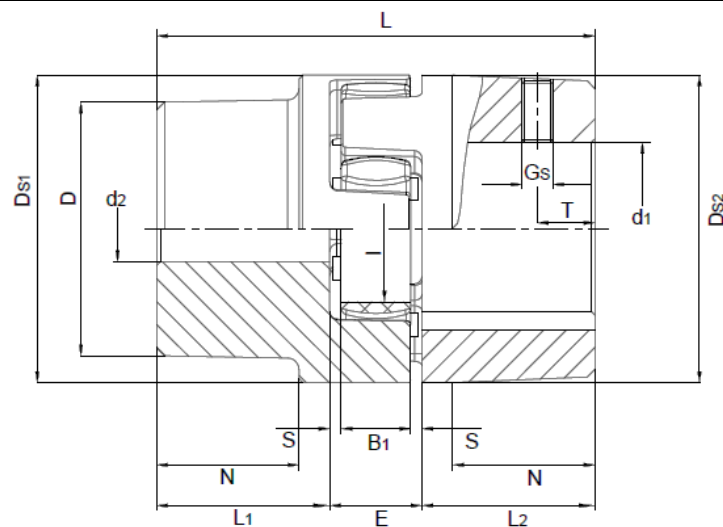
Standard Types



Features

- Lightweight yet offers excellent torque-to-weight ratio
- Good corrosion resistance for industrial environments
- Precisely machined for accurate bore and concentricity
- Elastomer spider absorbs sudden load changes

Parameters



TTC Size	Hub Type	Rated Torque (Nm)		Dimensions (mm)										Grubscrew		
		98Sh-A	64Sh-D	Finished Bore (min-max)	DS1	L	L1, L2	E	S	B1	I	D	N	G _s	T	Ta (Nm)
14	L	12.5	16	0-16	30	35	11	13	1.5	10	10.5	-	-	M 4	5	1.5
19	L	17	26	0-24	40	66	25	16	2	12	18	-	-	M 5	10	2
24	L	60	75	0-28	55	78	30	18	2	14	27	-	-	M 5	10	2
28	L	160	200	0-38	65	90	35	20	2.5	15	30	-	-	M 8	15	10
38	L	325	405	0-45	80	114	45	24	3	18	38	-	-	M 8	15	10
42	L	450	560	0-55	95	126	50	26	3	20	46	-	-	M 8	20	10
48	L	525	655	0-62	105	140	56	28	3.5	21	51	-	-	M 8	20	10

- Grub Screw thread opposite the keyway

Ordering Example:	Size	Material	Type	Spider	Finish bore d1	Finish bore d2
	TTC 28	Al	L / L	98Sh-A	Ø25	Ø24

TT COUPLINGS

Dimensional Data- Cast iron

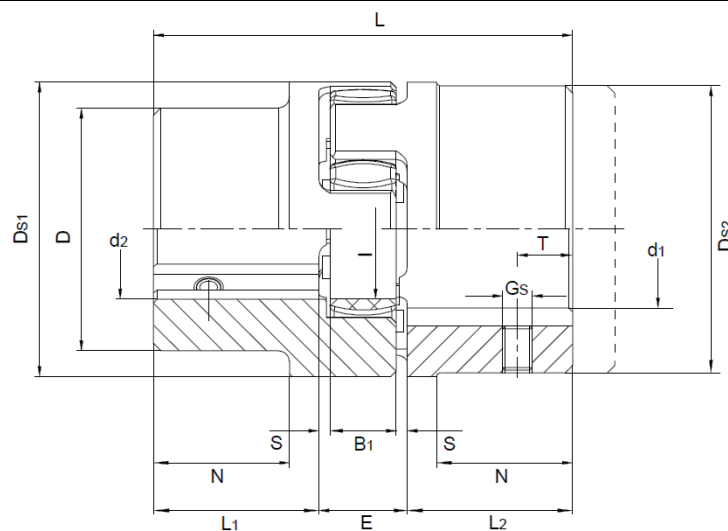
Standard Types



Features

- Significantly higher service life expectancy.
- Improved damping of vibrations.
- Transmission of high torques with medium damping.
- Cast iron couplings engineered for high load and shock applications, including maritime (saltwater) and underground use.

Parameters



TTC Size	Hub Type	Rated Torque (Nm)		Dimensions (mm)										Grubscrew		
		98Sh-A	64Sh-D	Finished Bore (min-max)	DH	L	L1,L2	E	S	B1	DL1	DN	N	G	T	Ta (Nm)
38	S	325	405	12-40	80	114	45	24	3	18	38	66	37	M8	15	10
	L			38-48								78				
	X			12-48												
42	S	450	560	14-45	95	126	50	26	3	20	46	75	40	M8	20	10
	L			42-55								94				
	X			14-55												
48	S	525	655	15-52	105	140	56	28	3.5	21	51	85	45	M8	20	10
	L			48-62								104				
	X			15-62												
55	S	685	825	20-60	120	160	65	30	4	22	60	98	52	M10	20	17
	L			55-74								118				
65	S	940	1175	22-70	135	185	75	35	4.5	26	68	115	61	M10	20	17
75	S	1920	2400	30-80	160	210	85	40	5	30	80	135	69	M10	25	17
90	S	3600	4500	40-100	200	245	100	45	5.5	34	100	160	81	M12	30	40
100	S	4950	6185	50-115	225	270	110	50	6	38	113	180	89	M12	30	40

- Grub screw thread on the keyway

Ordering	Size	Material	Type	Spider	Finish bore d1	Finish bore d2
Example:	TTC 48	CI	S / L	98Sh-A	Ø50	Ø60

TT COUPLINGS

Dimensional Data - Steel

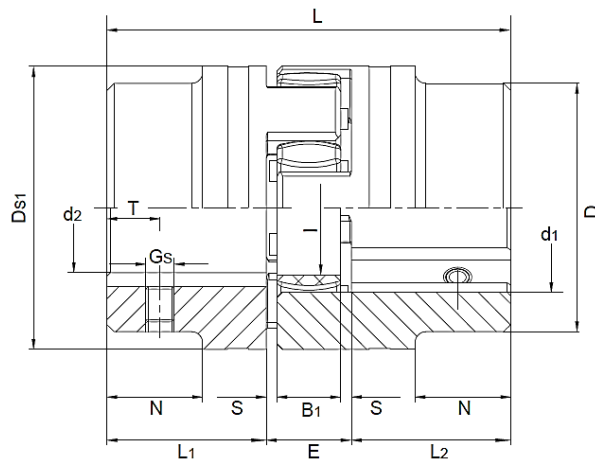
Standard Types



Features

- Excellent torque transmission capability
- Good machinability and toughness
- Suitable for high-load and industrial applications
- Can be surface-treated (black oxide / phosphate) for corrosion resistance

Parameters



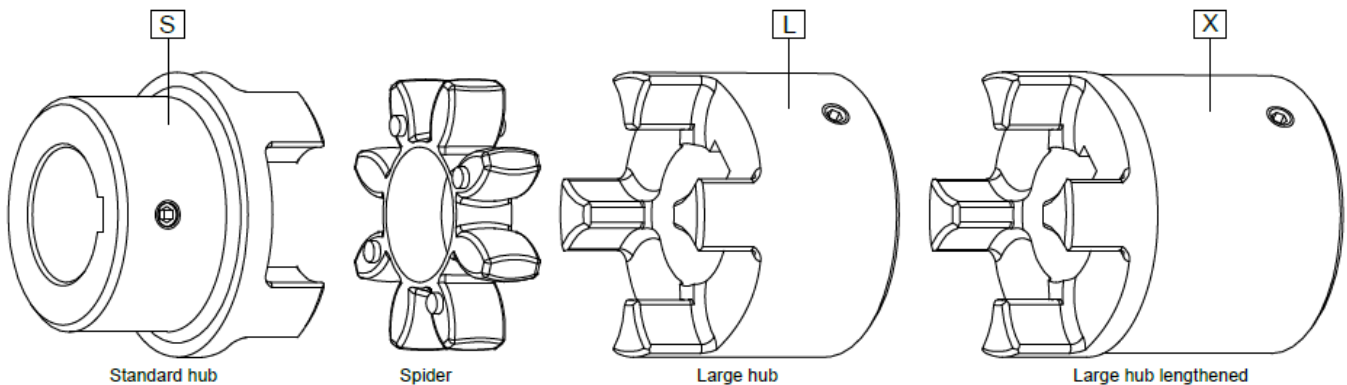
TTC Size	Hub Type	Rated Torque (Nm)		Dimensions (mm)										Grubscrew		
		98Sh-A	64Sh-D	Finished Bore (min-max)	D _{S1}	L	L1,L2	E	S	B1	I	D	N	G _S	T	Ta (Nm)
14	L	12.5	16	0-16	30	35	11	13	1.5	10	10	30	-	M 4	5	1.5
	X					50	18.5									
19	L	17	26	0-25	40	66	25	16	2	12	18	40	-	M 5	10	2
	X					90	37									
24	L	60	75	0-35	55	78	30	18	2	14	27	55	-	M 5	10	2
	X					118	50									
28	L	160	200	0-40	65	90	35	20	2.5	15	30	65	-	M 8	15	10
	X					140	60									
38	S	325	405	0-48	80	114	45	24	3	18	38	70	27	M 8	15	10
	X					164	70					80	-			
42	S	450	560	0-55	95	126	50	26	3	20	46	85	28	M 8	20	10
	X					176	75					95	-			
48	S	525	655	0-62	105	140	56	28	3.5	21	51	95	32	M 8	20	10
	X					188	80					105	-			
55	S	685	825	0-75	120	160	65	30	4	22	60	110	37	M10	20	17
	X					210	90					120	-			
65	S	940	1175	0-80	135	185	75	35	4.5	26	68	115	47	M10	20	17
	X					235	100					135	-			
75	S	1920	2400	0-95	160	210	85	40	5	30	80	135	53	M10	25	17
	X					260	110					160	-			
90	S	3600	4500	0-110	200	245	100	45	5.5	34	100	160	62	M12	30	40
	X					290	125					200	-			
100	S	4950	6185	0-115	225	270	110	50	6	38	113	180	89	M12	30	40

TT COUPLINGS

Weights and mass moments of inertia

Standard Types

TTC Size	Standard hub			Large hub			Spider
	Component standard hub			Component Large hub			Component 2
	Aluminium [kg] [kgm2]	Cast Iron [kg] [kgm2]	Steel [kg] [kgm2]	Aluminium [kg] [kgm2]	Cast Iron [kg] [kgm2]	Steel [kg] [kgm2]	Polyurethane [kg] [kgm2]
14	—	—	—	0.020	—	—	0.0044
	—	—	—	0.000003	—	—	0.0000005
19	0.064	—	—	0.074	—	0.25	0.0057
	0.00001	—	—	0.00002	—	0.00006	0.000001
24	0.123	—	—	0.174	—	0.55	0.014
	0.00004	—	—	0.00008	—	0.00023	0.000006
28	0.200	—	—	0.264	—	0.89	0.024
	0.00010	—	—	0.00019	—	0.00053	0.00001
38	0.44	1.16	1.6	0.470	1.32	1.74	0.042
	0.00033	0.00086	0.00151	0.00046	0.00135	0.00155	0.00004
42	0.69	1.75	2.44	0.772	2.05	2.74	0.065
	0.00067	0.00178	0.00281	0.00111	0.00291	0.00343	0.00008
48	0.80	2.44	3.34	1.01	2.78	3.72	0.086
	0.0012	0.00308	0.00473	0.00174	0.00484	0.00570	0.00013
55	—	3.68	5.05	—	4.08	5.57	0.11
	—	0.00615	0.00948	—	0.00926	0.01193	0.00023
65	—	5.67	6.79	—	6.04	8.22	0.17
	—	0.01240	0.01516	—	0.01789	0.02079	0.00043
75	—	8.72	10.5	—	9.53	14.3	0.32
	—	0.02644	0.03269	—	0.03946	0.05069	0.001166
90	—	14.8	18.7	—	18.2	24.0	0.57
	—	0.06730	0.08742	—	0.15086	0.13151	0.00326
100	—	19.7	—	—	—	—	0.82
	—	0.11694	—	—	—	—	0.00592



TT COUPLINGS

Other types

Standard Types



Type 6.0 clamping ring hub Screwing on elastomer side.

Type 2.5 clamping hub
double slotted, without
feather keyway



**Type 7.8 clamping hub
type H**
without feather
keyway for single-
cardanic connection



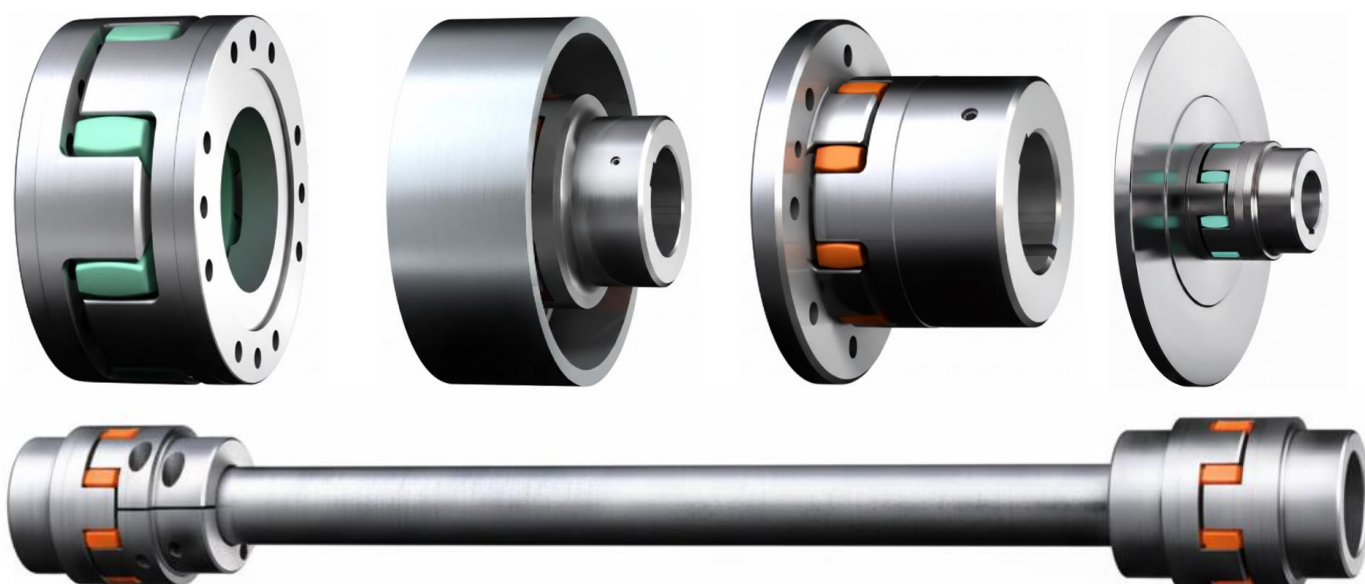
Type 9.0 expansion hub
Transmittable torques depend on
bore diameter and hollow shaft.



Type ZR
**Type 7.5
clamping hub
type DH**
without feather
keyway for
double-cardanic



Many different types of couplings available as below



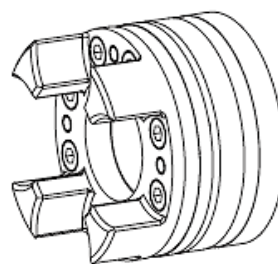
TT COUPLINGS

Types and Description

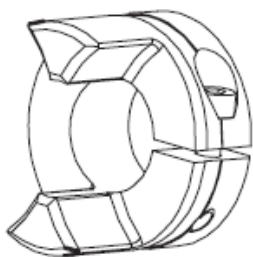
Types of Hubs



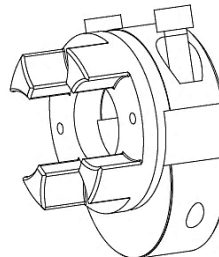
Type 1.0 hub
with feather keyway and
setscrew
Type 1.1 hub
without feather keyway,
with setscrew.
Type 1.3 hub
with spline bore



Type 6.0 clamping ring hub
Screwing on elastomer
side.
Type 6.5 clamping ring hub
Design like 6.0, except for
clamping screws externally.



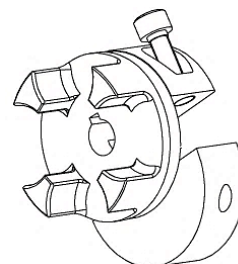
Type 2.0 clamping hub
single slot without feather
keyway



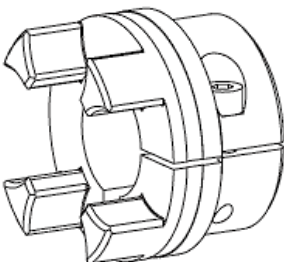
**Type 7.5 clamping hub
type DH**
without feather keyway for
double-cardanic
connection.
**Type 7.6 clamping hub
type DH**
with feather keyway for
double-cardanic connection



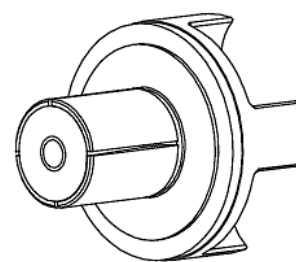
Type 2.1 clamping hub
single slot with feather
keyway



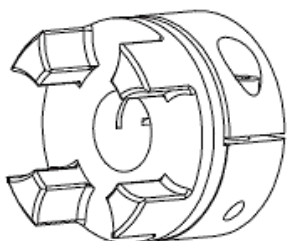
**Type 7.8 clamping hub
type H**
without feather keyway for
single-cardanic connection
**Type 7.9 clamping hub
type H**
with feather keyway for
single-cardanic connection



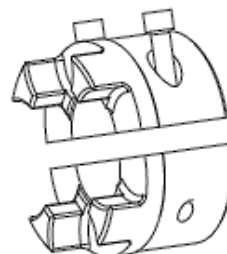
Type 2.3 clamping hub
with spline bore



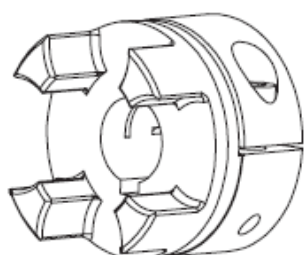
Type 9.0 expansion hub
Transmittable torques
depend on bore diameter
and hollow shaft.



Type 2.5 clamping hub
double slotted, without
feather keyway



Type 7.1 SPLIT hub
with feather keyway

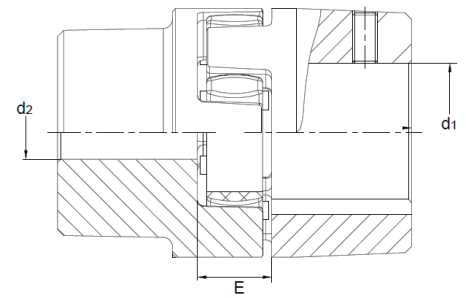


Type 2.6 clamping hub
double slotted, with feather
keyway

SELECTION PROCESS

Questionnaire – TT Coupling

1. Application = _____
2. Position (Horizontal/Vertical) = _____
3. Power (P) = _____ kw
4. Speed (n) = _____ rpm
5. Shaft diameter of driver (d1) = _____ mm
6. Shaft diameter of driven (d2) = _____ mm
7. DBSE (distance between side ends) (E) = _____ mm
8. If coupling after gearbox (ratio) = _____
9. Temperature (degree Celsius) = _____ °C
10. Safety Factor (refer page no.4) = _____



Useful Formula's

Parameters	Formula	Unit
Calculated Torque (T)	$T = \frac{P \times 9550}{n}$	_____ Nm
Rated Torque (Nm)	$\text{Rated Torque} = \text{Calculated Torque} \times \text{Service Factor}$	_____ Nm
HP to kW conversion	$\text{kW} = \text{HP} \times 0.746$	_____ kW

Note's

*

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