

Spinea TwinSpin “T” Series Specifications

Tab.2.1a: T series features

Case	a) TB- threaded holes in case 1) b) TC- threaded and through holes in case 2)
Input flange connection	Shaft sealing / adapter flange offers following versions: a) motor connection flange b) sealed input cover c) without flange
Input shaft design	Input shaft offers following versions: a) shaft with key-way b) according to special request
Installation and operation characteristics	A wider range of modular configurations

1) valid for TS 60, TS 70, TS 80, TS 110, TS 140

2) valid for TS 170, TS 200, TS 240, TS 300

Tab.2.1.b: T series ordering specifications

TS-200 - 125 - TC - P24					
Name	Size	Ratio	Series version	Shaft version	
				P (DIN 6885)	S
TS	60	35, 47 , 63	TB	6	•
	70	41, 57, 75	TB	11	•
	80	37, 63 , 85	TB	8	•
	110	33, 67, 89 , 119	TB	14	•
	140	33 , 57, 87, 115 , 139	TB	19	•
	170	33, 59 , 83, 105 , 141	TC	24	•
	200	63 , 83, 125 , 169	TC	24	•
	240	37, 87, 121, 153	TC	28	•
	300	63 , 125, 191	TC	28	•

Note: Example of specification code of the modified TwinSpin T series reduction gear with motor flange:

TS200 – 125 –TC– P24 – M235 – P231. Identification (ID) M235 and P231 for a specific modification is set by the manufacturer.

Tab.2.1c: Rating table T series

Size	Reduction ratio	Rated output torque	Acceleration and braking torque	Permissible torque at emergency stop	Rated input speed	Cycle effective speed 5)	Max. allowable input speed 10)	Tilting stiffness 1)6)	Torsional stiffness 1)7)	Max. no-load starting torque 9)	Max. back driving torque 9)	
	i	T_R [Nm]	T_{max} [Nm]	T_{em} [Nm]	n_R [rpm]	n_{ef} [rpm]	n_{max} [rpm]					M_t [Nm/arcmin]
TS 60	35	37	74	185	2 000	3 000	4 000	27	3,5	0,16	9	
	47						0,12			9		
	63						0,12			10		
TS 70	41	50	100	250	2 000	2 000	4 000	35	7	0,30	11	
	57					2 500				5 000	0,15	12
	75										0,14	13
TS 80	37	78	156	390	2 000	3 000	4 000	62	9	0,35	14	
	63						5 000			0,20	15	
	85									0,12	16	
TS 110	33	122	244	610	2 000	2 000	3 500	150	22	0,35	24	
	67					2 500				3 900	0,35	28
	89					2 000				4 500	0,30	30
	119					2 500					0,20	33
TS 140	33	268	670	1 340	2 000	2 000	3 000	340	54	0,60	40	
	57									3 200	0,40	40
	87					2 500				4 500	0,35	55
	115										0,35	65
	139										0,34	65
TS 170	33	495	1 237	2 475	2 000	1 500	3 000	705	102	2,00	75	
	59					2 000				3 500	2,00	85
	83					2 500				4 000	1,40	100
	105										1,20	125
	141										0,40	125
TS 200	63	890	2 225	4 450	2 000	1 500	3 500	1 070	178	1,90	90	
	83					2 000				4 000	1,80	120
	125					4 000					1,70	200
	169					2 200				4 500	0,90	210
TS 240	37	1 620	4 050	8 100	1 500	1 000	2 000	1 800	340	3,00	90	
	87					3 000				1,75	160	
	121					3 500				1,70	170	
	153					3 700				1,20	180	
TS 300	63	2 940	7 350	14 700	1 500	1 100	2 500	3 500	680	3,00	200	
	125					1 400				3 200	2,00	250
	191					1 500				3 500	1,50	300

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1/ Mean statistical value. For further information see chapter Torsional stiffness, Tilting stiffness.

2/ Load at output speed 15 [rpm].

3/ Tilting moment $M_{c,max}$ value for $F_a=0$. If $F_a \neq 0$, see chapter Tilting moment.

4/ Axial force $F_{a,max}$ value for $M_c=0$. If $M_c \neq 0$, see chapter Tilting moment.

5/ Effective speed can be also higher for lost motion bigger than 1 arcmin and for low values of oil viscosity. For lost motion lower than 0,6 arcmin, please consult effective speed at manufacturer.

6/ Parameter depending on the version of high precision reduction gears.

7/ Parameter depending on the version of high precision reduction gears, ratio and lost motion.

8/ The values of parameters are informative. Exact value is depending on the concrete version of high precision reduction gear.

9/ The lower temperature of high precision reduction gear than 20°C will cause higher no load starting or back driving torque.

10/ Depending on the duty cycle higher input speed may be still possible, please consult at manufacturer.

Tab.2.1c: Rating table T series

Size Baugröße	Reduction ratio Untersetzung	Max. lost motion Max. Lost Motion	Average angular transmission error 1)7) Drehwinkelübertragungsge- nauigkeit 1)7)	Hysteresis Hysterese	Max. tilting moment 2)3) Max. Kippmoment 2)3)	Rated radial force 2) Nennradialkraft 2)	Max. axial force 2)4) Max. Axialkraft 2)4)	Input inertia 8) Massenträgheitsmoment am Eingang 8)	Weight 8) Gewicht 8)
	i	LM [arcmin]	ATE [arcsec]	H [arcmin]	M _{c max} [Nm]	F _{rR} [kN]	F _{a max} [kN]	I [10 ⁻⁴ kgm ²]	m [kg]
TS 60	35	<1,5	±36	<1,5	107	2,6	3,7	0,006	0,86
	47								
	63								
TS 70	41	<1,5	±36	<1,5	142	2,8	4,1	0,061	1,05
	57								
	75								
TS 80	37	<1,5	±36	<1,0	280	4,8	6,9	0,03	1,64
	63								
	85								
TS 110	33	<1,0	±20	<1,0	740	9,3	13,1	0,16	3,76
	67								
	89								
	119								
TS 140	33	<1,0	±20	<1,0	1 160	11,5	17	0,67	6,45
	57								
	87								
	115								
	139								
TS 170	33	<1,0	±20	<1,0	2 430	19,2	27,9	1,15	11,07
	59								
	83								
	105								
	141								
TS 200	63	<1,0	±18	<1,0	3 300	21,1	31,7	2,6	17,23
	83								
	125								
	169								
TS 240	37	<1,0	±18	<1,0	5 720	30,8	47,3	3,9	31,15
	87								
	121								
	153								
TS 300	63	<1,0	±18	<1,0	12 000	45,3	68,1	11,2	55,73
	125								
	191								

Important notes:

- Load values in tab. are valid for nominal life of L10 =6000 [Hrs].
- High precision reduction gears are preferred for intermittent cycle (S3-S8), output speed in application is inverted-variable. Continuous mode cycle (S1) is needed to consult at manu facturer.
- Dimensional pictures of T series reduction gears are listed in catalogue without sealing.
- Sealing options are decrbed in chapter Assembly instructions.
- Please consult max.speed in cycle with manufacturer.
- Values in tab. refer to nominal operating temperature.

Ratios highlighted in bold are recommended by Spinea because of optimized prices and delivery time.