

# Cycloid Gearboxes



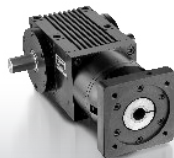
Cycloid gearboxes



Planetary gearboxes



Bevel gearboxes



Planetary bevel gearboxes



Hypoid gearboxes

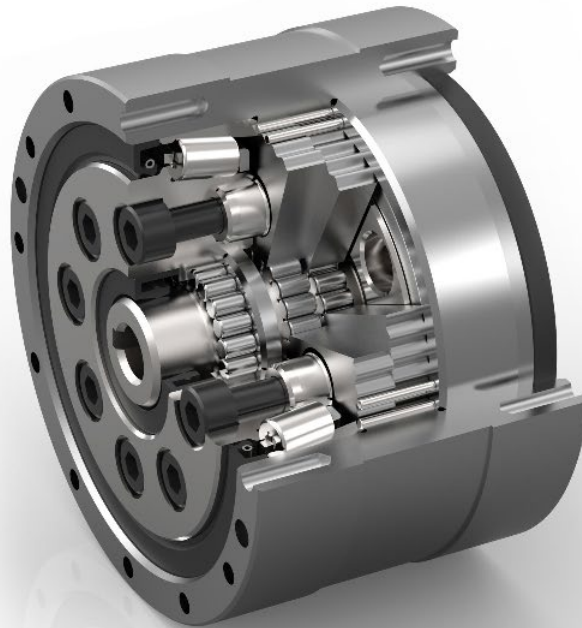


Gear technology

# EPPINGER Cycloid Gearboxes

High ratio cycloid gearboxes are primarily used in the area of machine tools, automation technology and robotics. Due to their specific mechanism design advantages, these compact precision gears are, predestined to meet the highest requirements for

positioning accuracy and power density. In addition to the continually growing standard program, Eppinger offers special cycloid gearbox solutions, including small design adaptations through to customer-specific developments.



## CHARACTERISTICS AND BENEFITS OF EPPINGER CYCLOID GEARBOXES

- High overload capacity
- Enormous torsional stiffness and tilting rigidity
- Smallest tooth backlash
- Excellent transmission accuracy
- Completely sealed (Degree of protection IP65)
- High ratio in a single-stage transmission
- Very compact design
- Durable and high-performance bearing

Our product range includes besides **bevel-, hypoid-, planetary- and cycloidal gear boxes** also **special customized gear boxes and high precision gear technology**. With our **gear motors and integrated combinations of our gear box series** we extended our portfolio.

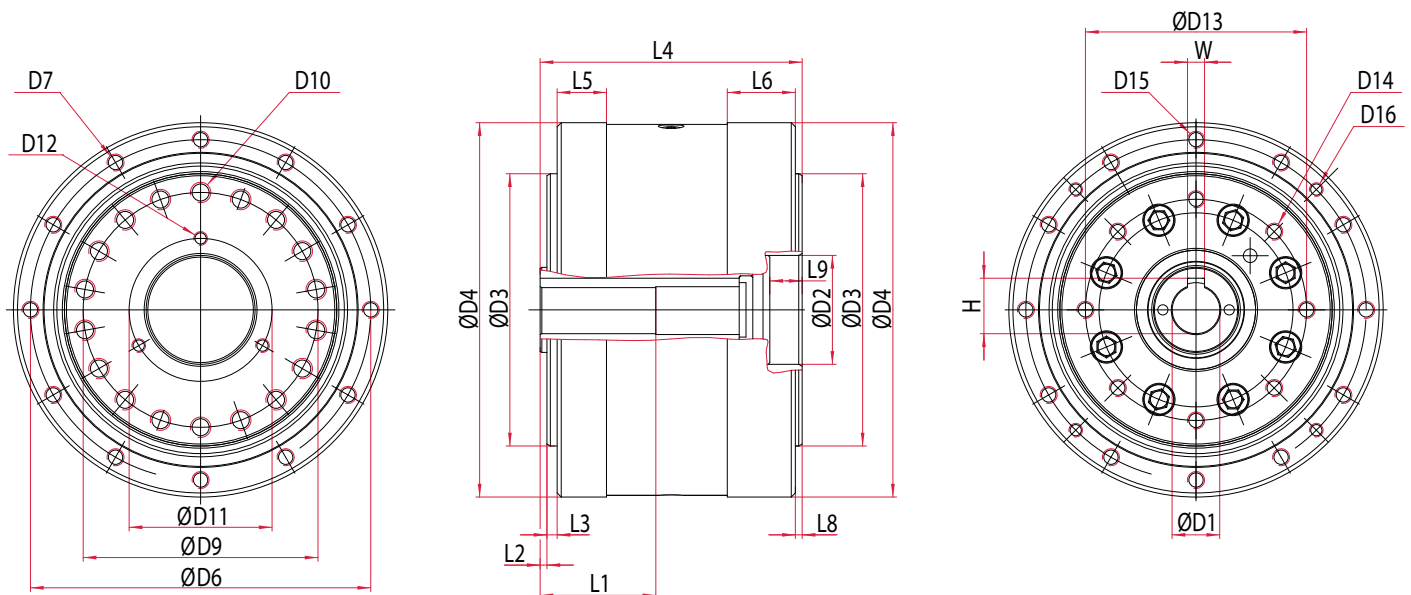
## Performance data

	Abbr.	Unit	i		C1T037		C1T080	C1T130		C3Q400					C1T3000	
Ratio	i				63:1		63:1 89:1	33:1 67:1 89:1 119:1		89:1					63:1	
					C7R24		C1F050	C1F080	C1F130	C1F280		C1F500	C1F900	C3R1300	C1F1400	
					29:1 49:1		41:1 57:1	33:1 41:1 55:1 63:1	33:1 67:1	33:1 57:1 69:1		33:1 59:1	63:1	89:1	55:1	
					79:1		75:1	83:1	89:1			83:1 105:1	83:1			
					99:1 119:1				119:1	115:1 125:1 139:1 175:1		125:1 141:1	125:1		125:1	
Rated output torque	T <sub>2N</sub>	Nm	all ratios		24	37	50	80	130	280	400	500	900	1300	1400	3000
Max. acceleration torque	T <sub>2B</sub>	Nm			54	74	100	160	325	700	1000	1250	2250	3200	3500	7500
Emergency stop torque	T <sub>2Not</sub>	Nm			120	185	250	400	650	1400	2000	2500	4500	6400	7000	15000
Rated input speed	n <sub>1N</sub>	rpm	i < 89:1 i ≥ 89:1	2000 3000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1500
Max. input speed	n <sub>1max</sub>	rpm	i < 57:1 i ≥ 57:1 i ≥ 69:1 i ≥ 89:1 i > 125:1	4000 5000 6000	5000	4000 5000	4000 5000	3500 3500 3900 4500	2500 3200			3000 3500 3500 4000 4500			2400 3000 3000 3500	2500
Tilting rigidity <sup>1</sup>	M <sub>t2</sub>	Nm/ arcmin	all ratios		42	27	40	70	155	380	880	1100	1300	490	1900	3500
Torsional stiffness	C <sub>t2</sub>	Nm/ arcmin			9	3,5	8	10	24	62	128	110	200	310	310	680
Average load-free starting torque <sup>2</sup>	T <sub>1A</sub>	Nm			0,24	0,12	0,3	0,3	0,4	0,6	2	1	1,9	1,8	1,8	3
Lost motion	LM	arcmin			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Max. tilting moment <sup>1</sup>	M <sub>c2max</sub>	Nm			119	107	142	280	740	1160	1620	2430	3300	3920	4400	12000
Permissible radial load (output) <sup>1</sup>	F <sub>R2max</sub>	N				2600	2800	4800	9300	11500		19200	21100		23000	45300
Permissible axial load (output) <sup>1</sup>	F <sub>A2max</sub>	N			4650	3700	4100	7000	13100	17000		27900	31700		36000	68100
Mass moment of inertia	J <sub>1</sub>	kgcm <sup>2</sup>			0,01	0,006	0,061	0,03	0,16	0,7	6,95	1,2	2,6	61,5	4,8	11,2
Weight	m	kg			1	1	1,22	1,75	4,32	7,32	12	15,5	22	31	27	66
Service life	L <sub>h</sub>	h			6000											
Operating temperature <sup>3</sup>		°C			-25 to 40											
Degree of protection					IP65											
Lubrication					oil / grease											
Mounting position					any											
Motor flange					optional											

<sup>1</sup> at output speed of 15 rpm

<sup>2</sup> at more than 20°C

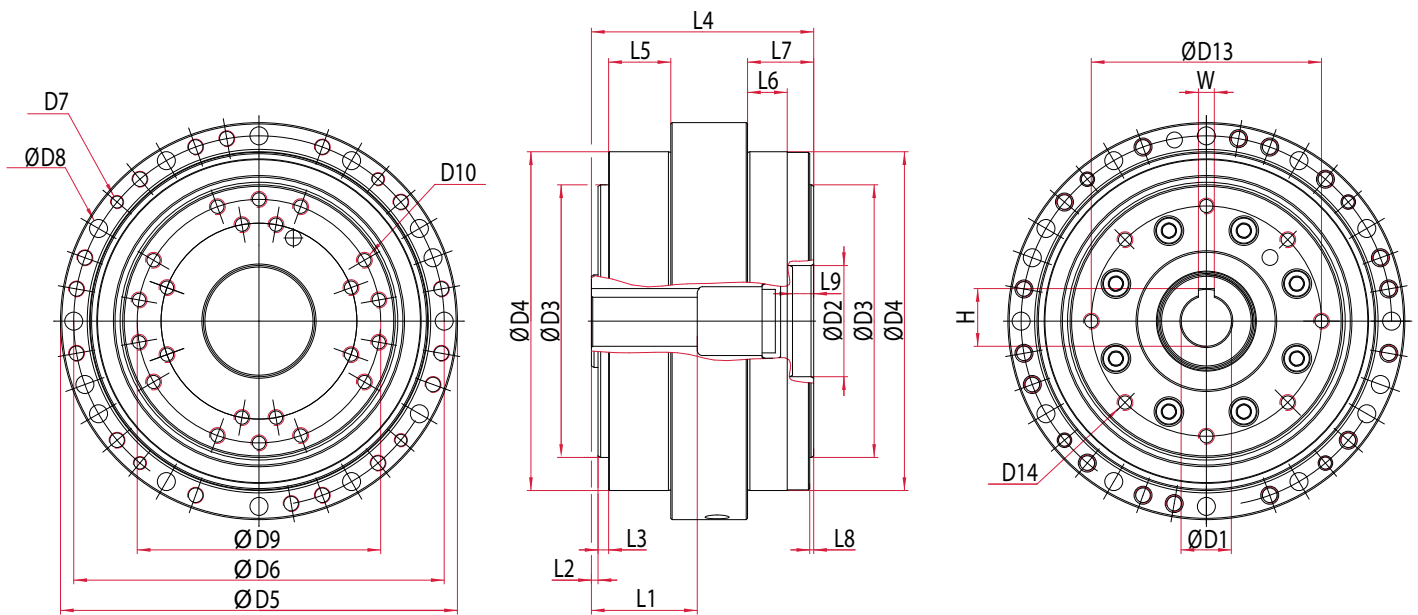
<sup>3</sup> housing temperature



**Dimensions (in mm) C1T - Series**

	C1T037	C1T050	C1T080	C1T130	C1T280	C1T500	C1T900	C1T1400	C1T3000
D1	Ø6 H7		Ø8 H7	Ø14 H7					Ø28 H7
D2	Ø15,5 H6		Ø22,3 H6	Ø32 H6					Ø60 H6
D3	Ø40 h11		Ø55 h11	Ø80 h11					-
D4	Ø63 h7		Ø80 h7	Ø110 h7					Ø300 h7
D6	Ø57		Ø73	Ø100					Ø274
D7	12xM3		12xM4	12xM5					12xM16
D9	Ø34		Ø46	Ø69					Ø200
D10	8xM4		8xM5	18xM6					18xM16
D11	-		-	Ø42					Ø100
D12	-		-	3xM4					6xM10
D13	-		-	Ø65					Ø200
D14	-	In preparation	-	8xM5	In preparation	In preparation	In preparation	In preparation	6xM16
D15	12xM3		12xM4	12xM5					12xM16
D16	-		-	4xM4					4xM8
L1	28,1		20	34					65
L2	2		0	2					15
L3	-0,2		-0,3	3					-0,5
L4	50		53,4	77					155
L5	13		16	14,5					29
L6	13		16	20					39
L8	0,5		0,3	2					1
L9	2,5		4,5	9,5					16
W	2 JS9		3 JS9	5 JS9					8 JS9
H	7		9,4	16,3					31,3

Subject to change in design. We recommend technical clarification prior to ordering.

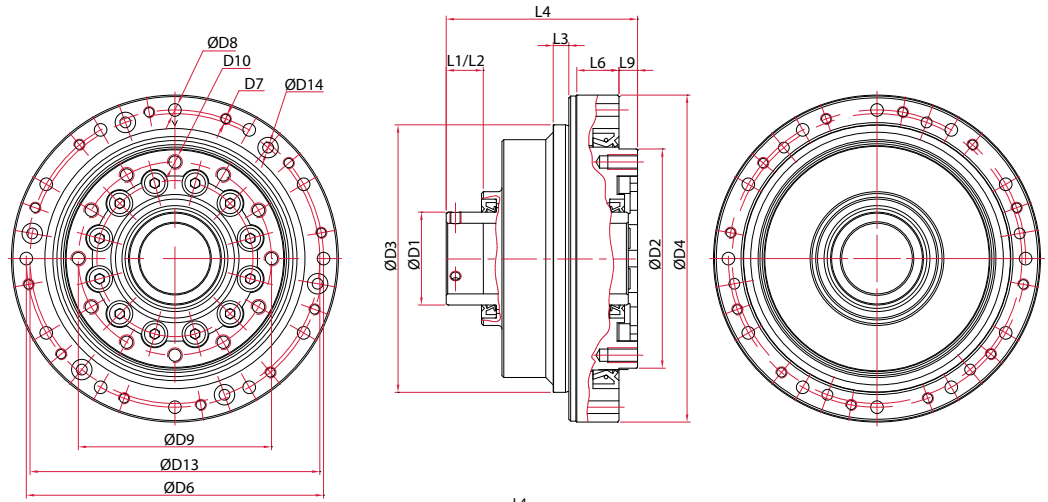


**Dimensions (in mm) C1F - Series**

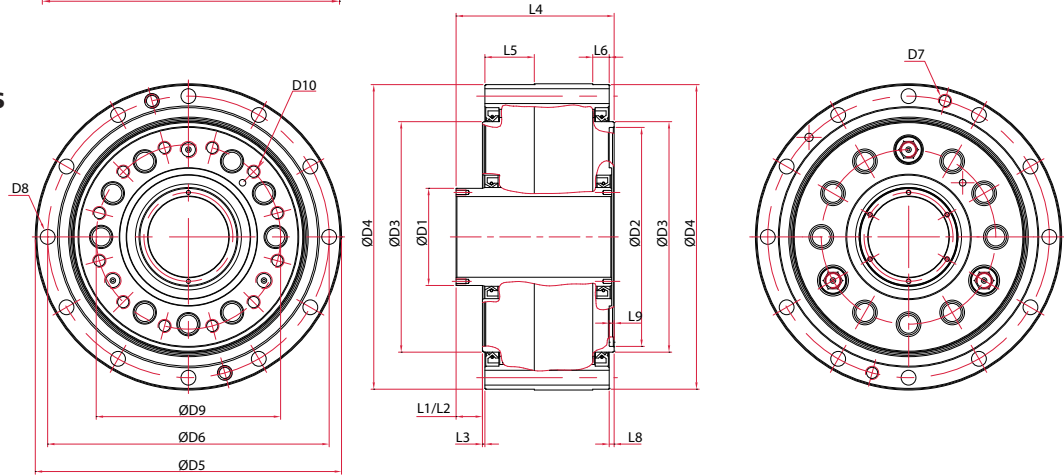
	C1F037	C1F050	C1F080	C1F130	C1F280	C1F500	C1F900	C1F1400	C1F3000
D1		Ø11 H7	Ø11 H7	Ø14 H7	Ø19 H7	Ø24 H7	Ø24 H7	Ø28 H7	
D2		Ø25 H7	Ø22,3 H7	Ø32 H7	Ø42 H7	Ø48 H7	Ø52 H7	Ø110 H7	
D3		Ø50 h7	Ø55 h7	Ø80 h7	Ø103 h7	Ø110 h7	Ø155 h7	Ø165 h7	
D4		Ø67 h7	Ø75 h7	Ø103 h7	Ø128 h7	Ø160 h7	Ø187 h7	Ø202 h7	
D5		Ø84	Ø95	Ø123	Ø150	Ø190	Ø225	Ø238	
D6		Ø76	Ø85	Ø113	Ø140	Ø175	Ø206	Ø220	
D7		16xM5	18xM5	20xM5	16xM6	16xM8	14xM10	14xM10	
D8		10xØ5,5	12xØ5,5	14xØ5,5	14xØ6,8	12xØ9,0	14xØ11,0	14xØ11,0	
D9		Ø40	Ø46	Ø69	Ø92	Ø110	Ø129	Ø140	
D10		5xM6	8xM5	18xM6	18xM6	18xM8	18xM12	20xM10	
D13		Ø42	Ø45	Ø65	Ø87	Ø122	Ø130	Ø127	
D14		8xM4	4xM4	8xM5	8xM6	8xM6	6xM8	8xM10	
L1	In preparation	27	27	34	40	40	56	50	In preparation
L2		5	4,5	2	2,5	-9	9,5	9,5	
L3		3	0,5	3	4	5	0,5	0,5	
L4		59,3	60	77	84	103,4	120	131,5	
L5		19,8	20,4	26	27,5	32,5	33	39	
L6		10	10	10	15	15	20	19	
L7		24,5	20,4	28	25	28	43	43,5	
L8		6,2	0,5	2	1,5	0,5	4,5	5	
L9		6,5	4,2	9,5	8	5	6	-5	
W		4 JS9	4 JS9	5 JS9	6 JS9	8 JS9	8 JS9	8 JS9	
H		12,8	12,8	16,3	21,8	27,3	27,3	31,3	

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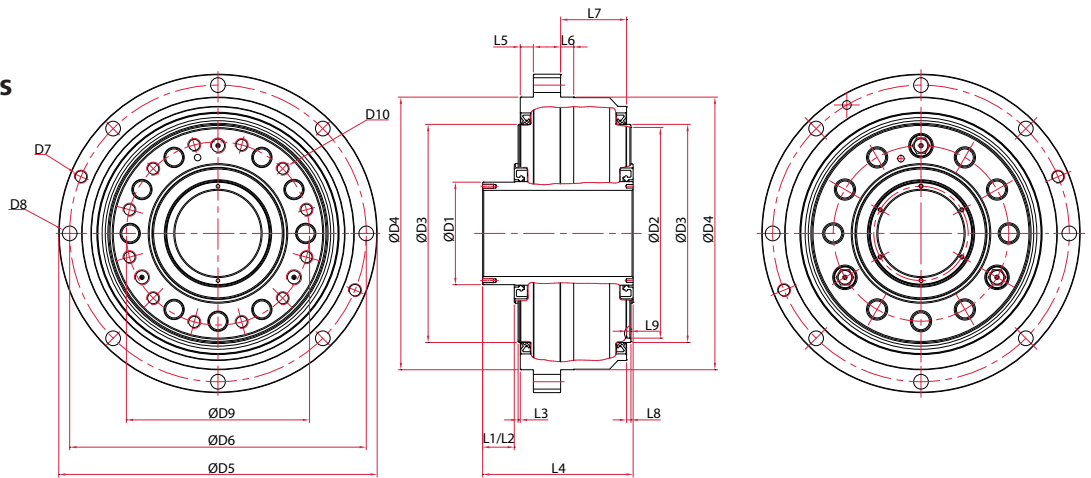
### Dimensions C7R-Series



### Dimensions C3Q-Series



### Dimensions C3-Series



### Dimensions (in mm)

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D13	D14
C7R24	Ø25 h7	Ø59 h7	Ø72 h7	Ø88 h7	-	Ø80	12xM3	12xØ3,4	Ø52	12xM4	Ø78	6xØ2,9
C3Q400	Ø59 h7	Ø133 H7	Ø140	Ø185 h7	Ø186	Ø171	2xM8	12xØ9	Ø112	12xM8	-	-
C3R1300	Ø94 h7	Ø192 H7	Ø200	Ø250 h7	Ø292	Ø272	2xM12	8xØ13,5	Ø168	12xM12	-	-
	L1	L2	L3	L4	L5	L6	L7	L8	L9			
C7R24	9,5	9,5	4,2	51,5	-	11,6	-	-	5			
C3Q400	16	16	1,5	96	30	10	-	3	3			
C3R1300	29	29	2	138	12	12	60,5	4	4			

