

STAINLESS WORM & HELICAL BEVEL GEARBOXES

DESIGNED FOR DEMANDING ENVIRONMENTS



STAINLESS STEEL WORM GEARS

To complement the **MARLIN** Stainless motor range we also offer high quality, European-manufactured stainless steel gearboxes. The series is developed specifically for the food and pharmaceutical industries which make heavy demands on machinery and therefore require an easy to clean design.

The Stainless steel gears are designed with a smooth housing and hollow shaft. They are lubricated for life and can also be supplied with a lubricant approved for the food industry. Oil seals are made of nitrile rubber as standard with other materials available for specific applications.

In order to reduce the risk of bacteria growth, this design features smooth surfaces without unnecessary flanges, recesses or mounting holes. It is also possible to supply the gears with torque arms, output flanges and various combinations of hollow-worm or solid-worm through shafts. *Other adaptations available.*

The gearboxes can be supplied either stand alone or as a complete sanitary gear motor with a **MARLIN** Stainless AC motor.

The protection of the gearbox is IP65. To achieve an overall protection of IP66 they need to be assembled to a motor using a genuine **MARLIN** gasket.

The motor-gearboxes are suitable for mounting without additional stainless safety covers in areas where hygiene requirements are high. Hidden sources of contamination are therefore avoided.

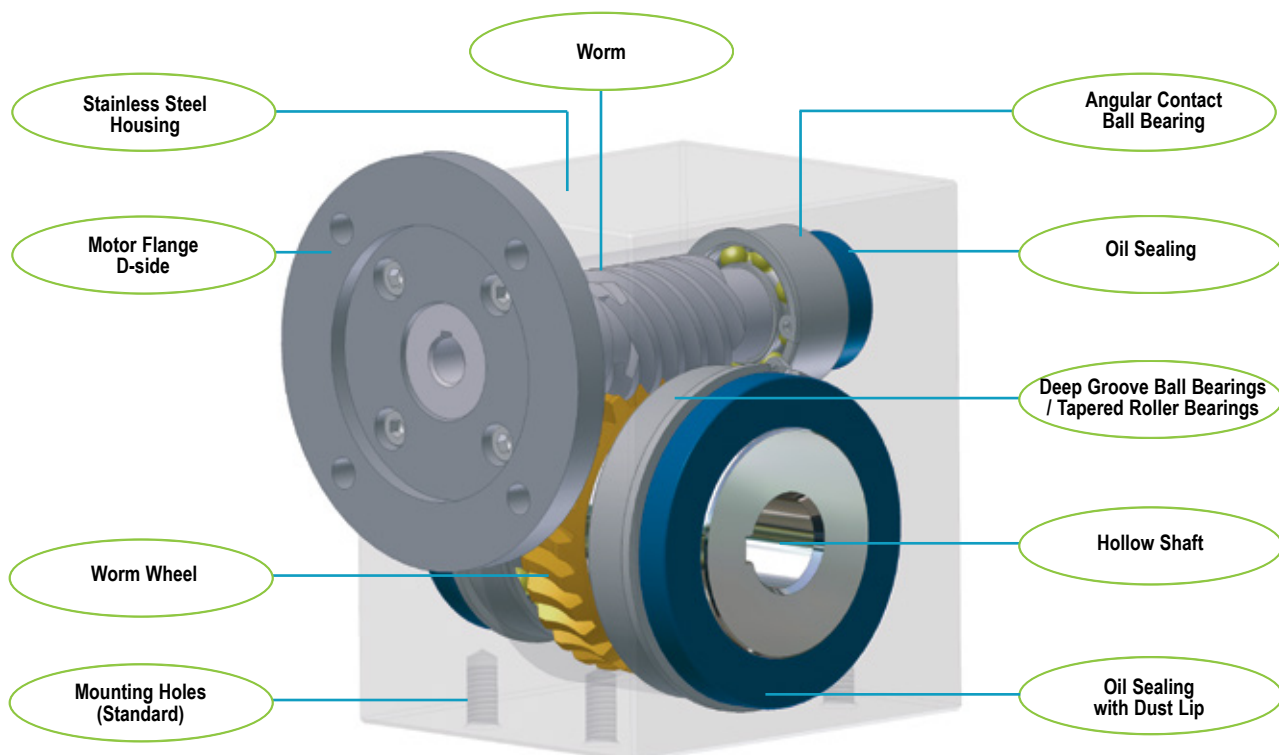
The gearboxes are supplied with a centre distance of 31, 42, 61, 79 or 99 mm. The gear ratios range from 5:1 to 75:1 with an output torque up to approx. 900 Nm. See further specifications on the following pages.

You are welcome to contact our specialists who can discuss in detail your specific requirements and give more information on our complete product profile.

TYPE DESIGNATION



In order to generate an unambiguous type designation of the stainless steel gearbox, the figure **1** of the example above indicates that it is a worm gear. The figure **42** indicates the centre distance and thus the gear size (available in 31, 42, 61, 79 and 99). The figure **4** indicates that it is a stainless steel gearbox. The other figures are further explained on the following pages.



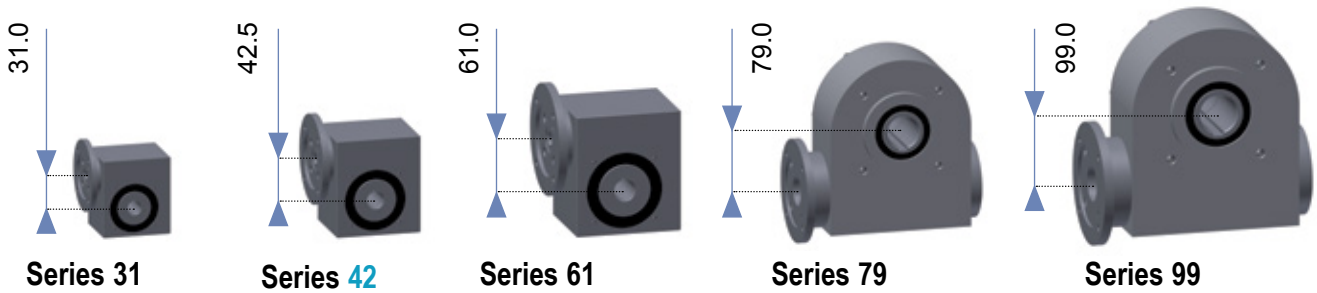


SELECTION GUIDE

1 42 4 0 411 12 02 01 30 0 1

Stainless Steel Worm Gearbox Sizes

The stainless steel worm gearboxes are standardly made in 5 sizes with housings made of stainless steel.



Gear Ratios

Stainless steel worm gearboxes are as standard available with the following nominal gear ratios:

For exact values, see tables of effects on page 4, 5 and 6. *Other gear ratios on request.*

Series 31 and 42 only

No.	07	10	15	20	30	40	50	60	05	25	75
Gear Ratio	7 / 7.3 / 7.5:1	10:1	15:1	20 / 21:1	30:1	38 / 40 / 42:1	48 / 50:1	60 / 62:1	5 / 5.4:1	25:1	75:1



SERVICE FACTOR

The operating conditions are of importance to the durability of the gearbox. The gearbox should therefore be dimensioned by using the service factors mentioned below. Please note that the values apply for operation with an AC standard motor.

$$\text{Service Factor} = \frac{M_{\text{gear}} \text{ [Nm]}}{M_{\text{required}} \text{ [Nm]}}$$

Type of load	Number of starts per hour	Operation time per day			
		2	2 – 8	8 – 12	12 – 24
Uniform, smooth load	< 50	0.8	0.9	1.0	1.3
	50 - 500	0.9	1.1	1.2	1.5
	500 <	1.0	1.2	1.4	1.7
Moderate impact load	< 50	0.9	1.1	1.3	1.5
	50 - 500	1.1	1.3	1.5	1.8
	500 <	1.3	1.5	1.7	2.0
Heavy impact load	< 50	1.3	1.5	1.6	1.8
	50 - 500	1.5	1.7	1.9	2.1
	500 <	1.7	2.0	2.1	2.4

TABLES OF EFFECT

1 42 4 0 411 12 02 01 30 0 1

Strength Factor

The strength factor is an expression of the durability of the gearing in relation to breakage. The breakage limit is three times the strength factor.

- By normal use, include the service factor on page 3 and choose a strength factor > 1.
- In case of special demands on safety or other special conditions, please contact a **MARLIN** Stainless product specialist.

Motor		Series 31 Output Torque Gearbox [Nm] / Strength Factor											
[rpm]	[kW]	Gear ratio n ₂ [rpm]	5:1 180 rpm	7:1 129 rpm	10:1 90 rpm	15:1 60 rpm	20:1 45 rpm	25:1 36 rpm	30:1 30 rpm	38:1 24 rpm	50:1 18 rpm	60:1 15 rpm	75:1 12 rpm
900	0.06		2.6/4.6	3.6/3.5	4.6/2.6	6.6/2.1	8.1/1.6	8.8/1.5	10/1.3	12.6/1.2	12.7/0.9	13.8/0.8	15/0.6
	0.12		5.2/2.3	7.1/1.7	9.3/1.3	13.2/1.0	16.3/0.8	18/0.8	20/0.6	25.2/0.6			
	0.18 2)		7.8/1.5	10.7/1.2	13.9/0.9	19.8/0.7							
1,400	[rpm]	n ₂ [rpm]	280 rpm	200 rpm	140 rpm	93 rpm	70 rpm	56 rpm	47 rpm	37 rpm	28 rpm	23 rpm	19 rpm
	0.06		1.7/6.6	2.3/5.0	3.1/3.7	4.4/2.9	5.4/2.3	5.8/2.1	6.8/1.8	8.4/1.6	8.6/1.2	9.3/1.0	10/0.9
	0.09		2.5/4.4	3.5/3.3	4.6/2.5	6.5/1.9	8.1/1.5	8.7/1.4	10/1.2	12.6/1.1			
	0.12		3.4/3.3	4.6/2.5	6.1/1.8	8.7/1.5	11/1.1	12/1.1	14/0.9				
2,800	0.18 1)		5.1/2.2	7.0/1.7	9.2/1.2	13/1.0							
	[rpm]	n ₂ [rpm]	560 rpm	400 rpm	280 rpm	187 rpm	140 rpm	112 rpm	93 rpm	74 rpm	56 rpm	47 rpm	37 rpm
	0.09		1.3/8	1.8/5.8	2.4/4.3	3.4/3.3	4.2/2.6	4.7/2.4	5.4/2.0	6.6/1.8	7.1/1.4	7.7/1.1	8/0.9
	0.12		1.7/6	2.4/4.3	3.2/3.2	4.5/2.5	5.6/1.9	6.2/1.8	7.2/1.5	8.9/1.4	9.4/1.0		
	0.18 1)		2.6/4	3.6/2.9	4.7/2.1	6.8/1.7	8.5/1.3	9.4/1.2	10.9/1.0	13.3/0.9			
0.25 1)		3.6/3	5.0/2.1	6.6/1.5	9.5/1.2	11.8/0.9	13/0.9						

Motor		Series 42 Output Torque Gearbox [Nm] / Strength Factor											
[rpm]	[kW]	Gear ratio n ₂ [rpm]	5.4:1 130 rpm	7.5:1 93 rpm	10:1 70 rpm	15:1 47 rpm	20:1 35 rpm	25:1 28 rpm	30:1 23 rpm	40:1 18 rpm	50:1 14 rpm	62:1 11 rpm	75:1 9 rpm
700	0.09		5.3/8.5	7.1/6.7	9.1/6.7	12/7.0	16/3.7	20/9.2	21/6.5	24/3.7	29/2.4	32/1.6	38/1.0
	0.12		7.2/6.4	9.7/5.0	12/5.1	17/5.0	21/2.9	27/7.0	28/5.0	33/2.8	39/1.8	44/1.2	
	0.18 2)		11/4.3	14/3.6	19/3.3	26/3.4	33/1.9	41/4.7	43/3.3	51/1.8			
	0.25 2)		15/3.2	20/2.5	26/2.5	37/2.4	46/1.3	57/3.4					
	0.37 3)		23/2.1	31/1.6	40/1.6	55/1.6							
	0.55 3)		34/1.4	46/1.1									
900	[rpm]	n ₂ [rpm]	167 rpm	120 rpm	90 rpm	60 rpm	45 rpm	36 rpm	30 rpm	23 rpm	18 rpm	15 rpm	12 rpm
	0.09					12/7.7	12/4.6	15/11.4	16/8.1	20/4.4	23/2.9	26/1.9	30/1.2
	0.12		5.6/7.5	7.6/5.9	9.7/5.9	13/6.0	17/3.3	21/8.3	23/5.7	28/3.2	32/2.1	36/1.4	
	0.18 1)		8.6/5.0	11/4.2	15/3.9	21/3.8	26/2.2	32/5.6	35/3.9	43/2.2	50/1.4		
	0.25 1)		12/3.6	16/2.9	21/2.8	29/2.8	37/1.6	46/4.0	49/2.8				
	0.37 2)		18/2.5	24/2.0	31/1.9	44/1.9							
	0.55 2)		27/1.7	37/1.3	47/1.3								
	0.75 3)		37/1.2										
1,400	[rpm]	n ₂ [rpm]	259 rpm	187 rpm	140 rpm	93 rpm	70 rpm	56 rpm	47 rpm	35 rpm	28 rpm	23 rpm	19 rpm
	0.09				4.6/10	6.5/10	8.3/5.6	10/14.2	11/9.9	14/5.5	15/3.6	17/2.5	20/1.6
	0.12		3.5/9.6	4.7/7.7	6.2/7.6	8.8/7.5	11/4.2	14/10.5	15/7.5	18/4.2	21/2.8	24/1.8	28/1.2
	0.18 1)		5.5/6.4	7.4/5.1	9.7/5.0	13/5.3	17/2.9	21/7.2	23/5.1	28/2.8	33/1.8	37/1.2	
	0.25 1)		7.8/4.6	10/3.8	13/3.8	19/3.7	24/2.1	30/5.1	33/3.6	40/2.0			
	0.37 1)		11/3.3	15/2.6	20/2.5	29/2.4	37/1.4	45/3.5	49/2.4				
	0.55 2)		17/2.2	23/1.7	31/1.6	43/1.6							
	0.75 2)		24/1.5	32/1.2	42/1.2								
2,800	[rpm]	n ₂ [rpm]	519 rpm	373 rpm	280 rpm	187 rpm	140 rpm	112 rpm	93 rpm	70 rpm	56 rpm	45 rpm	37 rpm
	0.18 1)		2.6/8.7	3.6/6.9	4.7/6.9	6.8/6.7	8.7/3.8	11/9.3	12/6.8	14/4.0	17/2.6	20/1.7	23/1.1
	0.25 1)		3.8/6.2	5.2/4.9	6.8/4.9	9.7/4.9	12/2.7	15/7.0	17/4.9	21/2.8	25/1.8	29/1.2	
	0.37 1)		5.9/4.1	8.0/3.3	10/3.4	14/3.5	19/1.8	23/4.8	26/3.3	32/1.8			
	0.55 1)		8.9/2.8	12/2.2	15/2.3	22/2.2	29/1.2	35/3.2					
	0.75 2)		12/2.1	16/1.7	21/1.7	31/1.6							
	1.10 2)		18/1.4	24/1.1	32/1.1								
1.50 1) 3)		25/1.0											

These values apply to gearboxes which are well run in and properly heated for operation. 1) Available as stainless steel motor. 2) High output design. 3) Assembly through coupling.

TABLES OF EFFECT

Motor		Series 61 Output Torque Gearbox [Nm] / Strength Factor								
[rpm]	[kW]	Gear ratio n ₂ [rpm]	7:1 100 rpm	10:1 70 rpm	15:1 47 rpm	21:1 33 rpm	30:1 23 rpm	40:1 17 rpm	48:1 15 rpm	60:1 11 rpm
700	0.18		13/17.5	19/9.0	27/8.9	35/17.3	47/8.8	56/5.0	64/3.3	70/2.2
	0.25		19/12.9	27/6.5	39/6.2	50/12.3	67/6.2	82/3.5	90/2.4	99/1.6
	0.37		29/8.7	41/4.3	58/4.3	75/8.3	101/4.2	123/2.4	136/1.6	149/1.1
	0.55		44/5.8	62/2.9	88/2.8	112/5.6	152/2.8	185/1.6		
	0.75 2)		61/4.2	85/2.1	121/2.1	154/4.1	208/2.1			
	1.10 3)		90/2.9	126/1.4	178/1.4					
1.50 3)		123/2.1	172/1.1							
[rpm]	[kW]	n ₂ [rpm]	129 rpm	90 rpm	60 rpm	43 rpm	30 rpm	23 rpm	19 rpm	15 rpm
900	0.25 1)		15/14.6	21/7.4	30/7.3	39/14.1	52/7.3	64/4.1	72/2.8	80/1.8
	0.37 1)		23/9.6	32/5.0	45/5.0	58/9.6	79/4.9	97/2.7	109/1.9	120/1.2
	0.55 1)		34/6.7	48/3.4	69/3.3	88/6.4	119/3.3	146/1.8		
	0.75 1)		47/4.8	66/2.4	95/2.4	121/4.7	164/2.4			
	1.10 1)		70/3.3	98/1.7	140/1.6	179/3.2				
	1.50 2)		96/2.4	134/1.2						
	2.20 3)		141/1.6							
[rpm]	[kW]	n ₂ [rpm]	200 rpm	140 rpm	93 rpm	67 rpm	47 rpm	35 rpm	29 rpm	23 rpm
1,400	0.25 1)		9.6/17.8	13/9.5	19/9.4	25/17.4	33/9.2	41/5.1	47/3.6	53/2.3
	0.37 1)		14/12.5	20/6.3	29/6.3	38/11.8	51/6.2	62/3.5	72/2.4	80/1.5
	0.55 1)		22/8.1	31/4.2	45/4.1	57/8.0	77/4.1	94/2.3	109/1.6	122/1.0
	0.75 1)		30/6.0	42/3.1	62/3.0	79/5.8	106/3.0	129/1.7	151/1.2	
	1.10 1)		45/4.1	63/2.1	91/2.1	117/4.0	157/2.1			
	1.50 1)		62/3.0	86/1.5	125/1.5					
	2.20 2)		91/2.0	128/1.0						
[rpm]	[kW]	n ₂ [rpm]	400 rpm	280 rpm	187 rpm	133 rpm	93 rpm	70 rpm	58 rpm	47 rpm
2,800	0.37 1)		7/15.1	10/8.1	14/8.3	18/15.2	25/8.3	32/4.5	37/3.2	43/2.0
	0.55 1)		11/10.0	15/5.5	22/5.4	28/10.1	39/5.5	49/3.0	57/2.1	65/1.4
	0.75 1)		15/7.5	21/4.0	30/4.0	39/7.4	55/3.9	68/2.2	80/1.5	91/1.0
	1.10 1)		22/5.2	32/2.7	45/2.7	58/5.1	82/2.7	102/1.5	119/1.1	
	1.50 1)		31/3.7	44/2.0	63/2.0	81/3.6	112/2.0			
	2.20 1)		46/2.5	65/1.4	93/1.3	119/2.5				
	3.00 1)		63/1.8	89/1.0						
4.00 3)		84/1.4								

Motor		Series 79 Output Torque Gearbox [Nm] / Strength Factor								
[rpm]	[kW]	Gear ratio n ₂ [rpm]	7.33:1 95 rpm	10:1 70 rpm	15:1 47 rpm	21:1 33 rpm	30:1 23 rpm	42:1 17 rpm	50:1 14 rpm	62:1 11 rpm
700	0.37		31/16.4	43/8.5	59/8.5	79/4.2	104/8.3	136/4.2	153/3.0	171/1.9
	0.55		47/11.0	65/5.7	90/5.6	120/2.8	157/5.6	205/2.8	230/2.0	258/1.3
	0.75 2)		65/8.0	89/4.2	124/4.1	165/2.1	216/4.1	282/2.1	316/1.5	
	1.10 3)		97/5.4	132/2.9	183/2.8	245/1.4				
	1.50 3)		133/4.0	181/2.1	251/2.1					
	2.20		196/2.7							
[rpm]	[kW]	n ₂ [rpm]	123 rpm	90 rpm	60 rpm	43 rpm	30 rpm	21 rpm	18 rpm	15 rpm
900	0.55 1)		36/12.7	48/6.6	69/6.5	94/3.3	123/6.4	166/3.3	183/2.3	214/1.5
	0.75 1)		50/9.3	67/4.8	96/4.7	130/2.4	169/4.7	228/2.4	252/1.7	294/1.1
	1.10 1)		75/6.3	99/3.3	142/3.2	192/1.6	250/3.2	337/1.6		
	1.50 2)		103/4.6	136/2.4	195/2.4	263/1.2				
	2.20 3)		152/3.1	200/1.6	287/1.6					
	3.00 3)		208/2.3							
[rpm]	[kW]	n ₂ [rpm]	191 rpm	140 rpm	93 rpm	67 rpm	47 rpm	33 rpm	28 rpm	23 rpm
1,400	0.75 1)		32/11.2	42/6.0	62/5.8	82/3.1	112/5.8	149/3.0	167/2.1	196/1.4
	1.10 1)		47/7.8	63/4.1	92/4.0	122/2.1	166/4.0	221/2.1	248/1.4	291/0.9
	1.50 1)		65/5.7	88/2.9	127/2.9	168/1.5	228/2.9			
	2.20 1)		96/3.8	130/2.0	188/2.0	248/1.0				
	3.00 1)		133/2.8	178/1.5	258/1.5					
4.00		178/2.1	238/1.1							
[rpm]	[kW]	n ₂ [rpm]	382 rpm	280 rpm	187 rpm	133 rpm	93 rpm	67 rpm	56 rpm	45 rpm
2,800	1.10 1)		23/9.6	31/5.2	46/5.0	63/2.7	63/5.0	114/2.7	134/1.9	153/1.2
	1.50 1)		32/7.1	44/3.7	64/3.7	87/2.0	117/3.6	158/2.0	185/1.4	212/0.9
	2.20 1)		48/4.8	64/2.5	95/2.5	129/1.3	173/2.5			
	3.00 1)		66/3.5	90/1.8	131/1.8	177/1.0				
	4.00 3)		88/2.6	120/1.4	175/1.4					
5.00 3)		122/1.9	167/1.0							

These values apply to gearboxes which are well run in and properly heated for operation. 1) Available as stainless steel motor. 2) High output design. 3) Assembly through coupling.

TABLES OF EFFECT




Motor		Series 99 Output Torque Gearbox [Nm] / Strength Factor								
[rpm]	[kW]	Gear ratio n ₂ [rpm]	7:1 100 rpm	10:1 70 rpm	15:1 47 rpm	20:1 35 rpm	30:1 23 rpm	40:1 18 rpm	50:1 14 rpm	60:1 11 rpm
700	0.75		61/8.8	86/7.5	124/3.7	159/4.1	218/7.3	271/4.1	319/2.6	359/1.8
	1.10		91/5.9	128/5.0	183/5.0	236/2.8	323/5.0	401/2.8	472/1.8	531/1.2
	1.50		125/4.4	175/3.7	251/3.7	323/2.1	442/3.6	549/2.0	647/1.3	724/0.9
	2.20 2)		185/3.0	258/2.5	370/2.5	474/1.4	652/2.5			
	3.00 2)		253/2.2	353/1.9	506/1.8	647/1.0	891/1.8			
	4.00 2)		338/1.6	472/1.4						
	5.50 2)		465/1.2	650/1.0						
[rpm]	[kW]	n ₂ [rpm]	129 rpm	90 rpm	60 rpm	45 rpm	30 rpm	23 rpm	18 rpm	15 rpm
900	0.75 1)		47/10.0	66/8.4	97/8.3	124/4.7	171/8.3	213/4.7	250/3.0	282/2.1
	1.10 1)		70/6.8	98/5.7	143/5.7	185/3.2	253/5.6	315/3.2	371/2.1	418/1.4
	1.50 1)		97/4.9	134/4.2	197/4.2	253/2.4	348/4.1	432/2.3	509/1.5	574/1.0
	2.20 1)		143/3.4	198/2.9	290/2.8	374/1.6	513/2.8	637/1.6		
	3.00		196/2.4	271/2.1	398/2.1	511/1.2	697/2.1	866/1.2		
	4.00 2)		262/1.8	362/1.6	531/1.5					
	5.50 2)		361/1.3	500/1.2						
	7.50 2)		494/1.0							
[rpm]	[kW]	n ₂ [rpm]	200 rpm	140 rpm	93 rpm	70 rpm	47 rpm	35 rpm	28 rpm	23 rpm
1,400	1.10 1)		45/8.0	63/6.9	92/6.8	119/3.8	165/6.8	212/3.9	247/2.5	284/1.7
	1.50 1)		62/5.8	87/5.0	127/5.0	164/2.8	228/4.9	292/2.8	340/1.8	390/1.3
	2.20 1)		91/4.0	126/3.5	188/3.4	242/1.9	337/3.4	431/1.9	502/1.2	
	3.00 1)		125/2.9	177/2.5	257/2.5	331/1.4	461/2.5	591/1.4		
	4.00 1)		168/2.2	238/1.9	345/1.9	443/1.1				
	5.50 2)		232/1.6	328/1.4	475/1.3					
	7.50 2)		317/1.2	448/1.0						
[rpm]	[kW]	n ₂ [rpm]	400 rpm	280 rpm	187 rpm	140 rpm	93 rpm	70 rpm	56 rpm	47 rpm
2,800	1.50 1)		30/7.1	42/6.2	63/6.0	81/3.5	112/6.0	149/3.5	174/2.2	201/1.6
	2.20 1)		45/4.8	63/4.2	93/4.1	121/2.4	166/4.1	222/2.4	259/1.5	298/1.1
	3.00 1)		62/3.5	87/3.0	127/3.0	166/1.7	228/3.0	305/1.7	356/1.1	
	4.00 1)		83/2.6	116/2.3	171/2.3	223/1.3	306/2.3	409/1.3		
	5.50		115/1.9	161/1.7	236/1.7	308/0.9	423/1.6			
	7.50		158/1.4	220/1.2	323/1.2					
	11.00 2)		232/1.0							

These values apply to gearboxes which are well run in and properly heated for operation. 1) Available as stainless steel motor. 2) High output design. 3) Assembly through coupling.






MOUNTING OF GEAR

1 42 4 0 411 12 02 01 30 0 1

	Housing Mounting in Gear Housing	Housing Mounting in Side Flange
Stainless housing series 31, 42 and 61		
Stainless housing series 79 and 99		
Standard	40	41

CHOICE OF OUTPUT SHAFT

1 42 4 0 41 1 12 02 01 30 0 1

	Extra mounting holes RHS	Extra mounting holes LHS	Without extra mounting holes
Hollow Shaft			
Standard, Stainless Steel Shaft	4 (*6 for Ø38)	5 (*7 for Ø38)	0 (*8 for Ø38)

	Series 31	Series 42	Series 61	Series 79	Series 99
Shaft Sizes	Ø14 = 0 Standard Ø14	Ø18 = 7 Ø20 = 1 Standard Ø20	Ø25 = 3 Ø30 = 4 Standard Ø25	Ø30 = 4 Ø35 = 5 Ø38 = 5* Ø40 = 8 Standard Ø35	Ø35 = 5 Ø38 = 5* Ø40 = 8 Ø45 = 9 Ø48 = 6 Standard Ø48

*Ø38 is 65 for hollow shaft with mounting holes RHS, 75 is for hollow shaft with mounting holes LHS and 85 is for hollow shaft with no extra mounting holes.

Other shaft sizes on request, please contact a **MARLIN** Stainless product specialist.




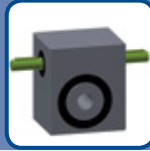
CHOICE OF OUTPUT SHAFT

1 42 4 0 41 1 12 02 01 30 0 1

Standard, Stainless Steel Shaft	1	
Stainless Steel Shaft, Tap. Roller Bearings	3	Only available for series 79 and 99

D-SIDE AND WORM

1 42 4 0 411 12 02 01 30 0 1

	Motor Flange and Hollow Worm at D-side	Free Worm Shaft at D-side
ND-side closed		
Standard	1202	3040
Hollow input Worm Shaft with Solid Shaft on ND-side		
Standard	1X2X	3050

X To be replaced by digits No. 1 - 9 of below table.

Customised solution:

The motor flange can be adapted to all motors. It is possible to mount couplings etc. between the motor and gearbox. The worm shaft can be manufactured in customised diameters and lengths.

This table indicates sizes of motor flanges, coupling housings and hollow worm shafts:

X to be replaced by	1	2	3	4	5	6	7	8	9
Series 31 Motor flange Hollow worm	DCD 75 Ø 11	DCD 85 Ø 14	DCD 100	DCD 115	DCD 130				
Series 42 Motor flange Hollow worm	DCD 75 Ø 11	DCD 85 Ø 14	DCD 100	DCD 115	DCD 130				
Series 61 Motor flange Hollow worm	DCD 75	DCD 85 Ø 14	DCD 100 Ø 19	DCD 115 Ø 24	DCD 130	DCD 165			
Series 79 Motor flange Hollow worm			DCD 100 Ø 19	DCD 115 Ø 24	DCD 130 Ø 28	DCD 165	DCD 215		
Series 99 Motor flange Hollow worm				DCD 115 Ø 24	DCD 130 Ø 28	DCD 165 Ø 38	DCD 215		
Standard Motors	Size 63	Size 71	Size 80	Size 90	Size 100/112	Size 132			
Motor Power [kW] for 700 min ⁻¹	0.06	0.09 0.12	0.18 0.25	0.37 0.55	0.75 1.1 1.5	2.2 3.0			
Motor Power [kW] for 900 min ⁻¹	0.12	0.18 0.25	0.37 0.55	0.75 1.1	1.5 2.2	3.0 4.0 5.5			
Motor Power [kW] for 1400 min ⁻¹	0.12 0.18	0.25 0.37	0.55 0.75	1.1 1.5	2.2 3.0 4.0	5.5 7.5			
Motor Power [kW] for 2800 min ⁻¹	0.18 0.25	0.37 0.55	0.75 1.1	1.5 2.2	3.0 4.0 5.5	5.5 7.5			

DCD correspond to FT and FF motor flange sizes.

NB – Max input shaft dimensions as follows: 42 Box – 14mm.

CHOICE OF ND-SIDE

1 42 4 0 411 12 02 01 30 0 1

01	Closed End Cover, Standard , available for Worm without Solid Shaft on ND-side
11	Closed End Cover in Stainless Steel, Heavy Duty , available for Worm without Solid Shaft on ND-side
30	Open End Cover , for Worm with Solid Shaft on ND-side

CHOICE OF LUBRICANTS

1 42 4 0 411 12 02 01 30 0 1

	Description	Application	Viscosity	Lubricant
0	Fully synthetic gear oil, standard	Normal load and ambient temp. -25°C to +40°C	220	Klübersynth GH 6-220
1	Fully synthetic gear oil	Heavy load and ambient temp. -20°C to > +40°C	460	Klübersynth GH 6-460
2	Fully synthetic gear oil	Heavy load and ambient temp. -20°C to > +40°C	680	Klübersynth GH 6-680
3	Liquid grease	Normal load and ambient temp. -40°C to > +40°C	1200	Klübersynth GE 46-1200
4	Special lubricating oil for food and pharmaceutical industries	Normal load and ambient temp. -20°C to +40°C	460	Klüberoil 4 UH1-460 N

Ambient temperatures are guide values which depend on the lubricant's composition, the intended use and the application method. All data is based on synthetic oils. Do not mix synthetic oils with mineral oils.

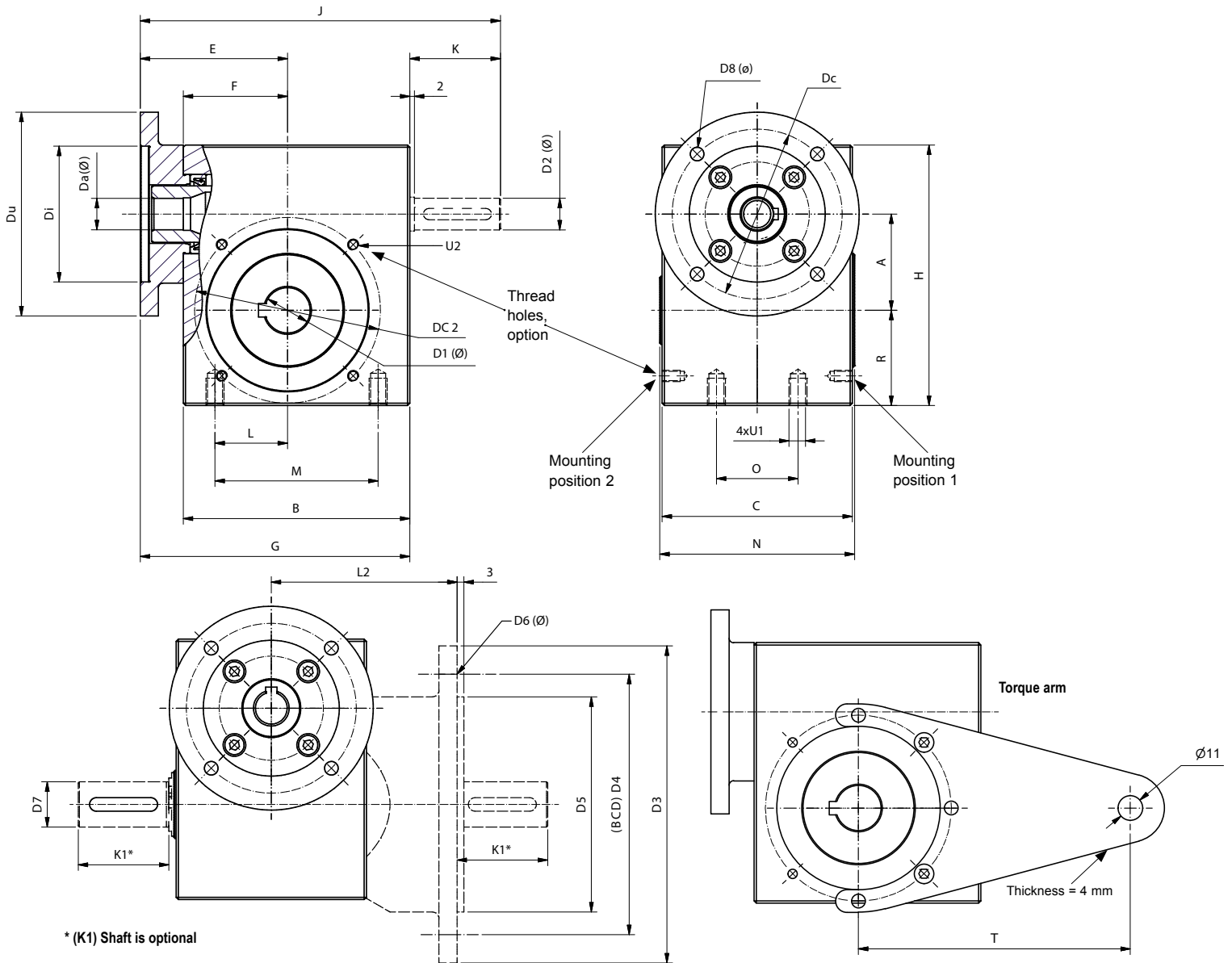
CHOICE OF FINISH

1 42 4 0 411 12 02 01 30 0 1

1	No treatment (Standard for stainless steel gearboxes)
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DIMENSIONAL DRAWINGS SERIES 31, 42 AND 61



*(K1) Shaft is optional

Optional Covers for Output Shafts

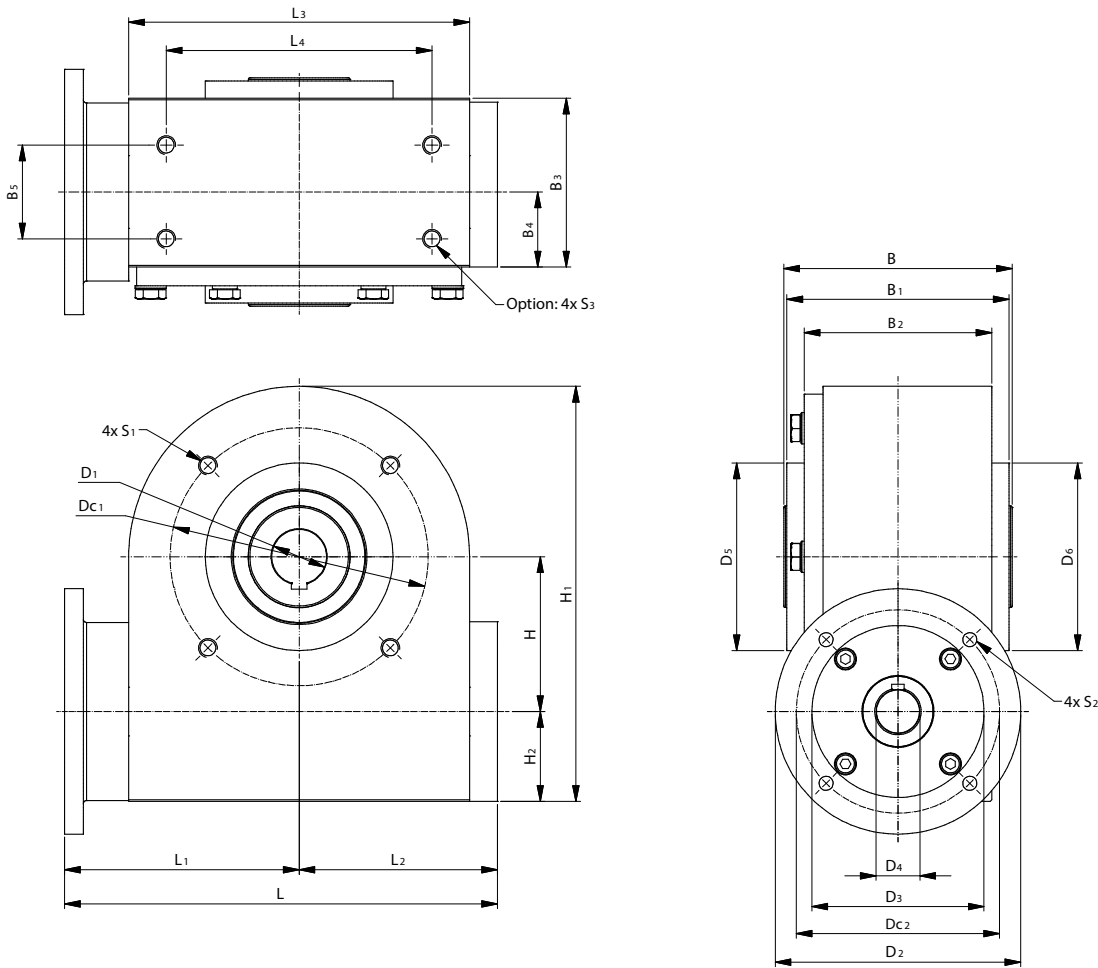
For information about covers please contact a **MARLIN** Stainless product specialist.

Gear series	A	B	C	D1 (H8)	D2 (k6)	D3	D4	D5	D6	D7 (k6)	F	H	K	K1	L	L2	M	N	O	R	T	U1	U2	X	Y	Motor size	Flange size	Du	Di (F6)	Da (G7)	Dc	Dc2	D8	E	G	J	Weight kg approx.
31	31	79	60	14	9	115	100	80	7	14	34	88	22	30	28	59	60	62	40	33.5	100	M6	M4	8	65	56	65	80	50	9	65	63	6	51	96	118	3
																										63	75	90	60	11	75	63	6	51			
42	42.5	100	84	20	14	140	115	95	9	20	46	115	40	40	32	82	72	86	36	42	120	M8	M5	10	86	63	75	90	60	11	75	82	6	65	119	159	6
																										71	85	105	70	14	85	82	7	65			
61	61	135	108	25/30	19	200	165	130	11	30	56	153	42	60	41	104	106	110	42	56	160	M10	M6	13	110	71	85	105	70	14	85	114	7	91	170	212	14
																										80	100	120	80	19	100	114	9	91	170	212	
																										90	115	140	95	24	115	114	9	101	180	222	

Key and keyway according to DIN 6885 except size 31: Key equal 5 x 4.3 mm

All measurements in millimeters

DIMENSIONAL DRAWINGS SERIES 79 AND 99



Optional Covers for Output Shafts

For information about covers please contact a **MARLIN** Stainless product specialist.

Gear series	Flange size	Motor size	L	L ₁	L ₂	L ₃	L ₄	B	B ₁	B ₂	B ₃	B ₄	B ₅	H	H ₁	H ₂
79	100	80	215	118	97	172	135	110	106	92	81	35	48	79	206	41
	115	90	215	118												
	130	100/112	223	126												
99	115	90	277	150	127	218	170	146	142	120	108	48	60	99	265.5	57.5
	130	100/112														

Key and keyway according to DIN 6885 All measurements in millimeters

Gear series	Flange size	Motor size	D ₁ (H8)	D ₂	D ₃ (F6)	D ₄ (G7)	D ₅	D ₆ (h6)	D _{c1} (h6)	D _{c2}	S ₁	S ₂	S ₃	Weight kg approx.
79	100	80	Ø35	Ø120	Ø80	Ø19	Ø50	Ø105	Ø125	Ø100	M10x12	Ø7	M12x18	21
	115	90		Ø140	Ø95	Ø24	Ø50	Ø105	Ø125	Ø115	M10x12	Ø9	M12x18	
	130	100/112		Ø160	Ø110	Ø28	Ø50	Ø105	Ø125	Ø130	M10x12	Ø9	M12x18	
99	115	90	*	Ø140	Ø95	Ø24	Ø120	Ø120	Ø165	Ø115	M12x20	Ø9	M12x20	37
	130	100/112		Ø157	Ø110	Ø28	Ø120	Ø120	Ø165	Ø130	M12x20	Ø9	M12x20	

Key and keyway according to DIN 6885

* Hollow shaft D1 available in Ø35, Ø40, Ø45 and Ø48 mm with tolerance H8 for series 99.

STAINLESS STEEL HELICAL BEVEL GEARS

WHERE HYGIENE, HIGH-TORQUE & EFFICIENCY COUNT

Our European-manufactured **MARLIN** Stainless steel helical bevel gearboxes feature bevel gears with helical teeth. They provide a high power to size ratio resulting in high torques with exceptional efficiencies. Their high torsional stiffness and low backlash lead to repeatable, precise positioning at high-torque rates. This design has excellent efficiency figures, giving very low running costs.

For certain applications, the helical design is a must-have choice because it results in extremely compact units, producing less vibration and noise than conventional straight-cut, or spur-cut gears with straight teeth. In addition, the uniform design of the gearboxes

makes them ideal for multi-stacking or double-ratio (back to back), achieving very low output speeds and high torques.

The stainless steel helical bevel gears are supplied as standard with a hollow output shaft and motor flange. Having been specifically designed for the Food and Pharmaceutical industries, when supplied with a **MARLIN** Stainless Motor as a complete stainless unit, their sleek lines are ideal for Clean in Place (CIP) washdown applications and harsh environments.

In addition to our standard range, special shafts and flanges are also available upon request.

FEATURES:

Easy and simple to fit

Compact and modular design

Hygienic design with smooth surfaces

Flanges are to IEC dimensions

The protection of the gearbox is IP65

Sturdy and reliable

Low noise

High efficiency

High Quality - Reduced lifecycle costs

Stainless motors available

Wide range of accessories available

Lubrication grease approved by the food industry on request





TECHNICAL SPECIFICATIONS

Series	Ratios	Max. output torque [Nm]	Housing design
Series SS 22 (2-steps)	4.83 - 70.24	50	Stainless steel housing with hollow output shaft Ø20 as standard. (Ø18 on request)
Series SS 32 (2-steps)	7.33 - 77.55	90	Stainless steel housing with hollow output shaft Ø20 as standard. (Ø25 on request)
Series SS 33 (3-steps)	7.33 - 324.18	100	
Series SS 42 (2-steps)	7.29 - 77.36	150	Stainless steel housing with hollow output shaft Ø25 as standard. (Ø30 on request)
Series SS 43 (3-steps)	7.29 - 323.37	160	

The stainless steel helical bevel gearboxes feature high power to size ratios and efficiencies of up to 96%.

They are available as standard with hollow output shaft and motor input flange.

All gearboxes within this catalogue are supplied for use with metric/IEC motors.

Various output flanges and torque arms are available on request.

Please visit our website www.marlinstainless.com where you will find further information on our complete product range. Please contact our specialists in order to find the right solution for your application.

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