STAINLESS STEEL WORM GEARBOXES

When demanded by the environment

bj·gear

Stainless steel worm gearboxes

BJ-Gear A/S manufacture stainless steel worm gearboxes of superior quality. The gearboxes are specifically developed for the food industry and other industries, that continuously make heavier demands to the resistance of material and to a design, that is easy-to-clean.

The gearboxes are designed with a smooth, stainless steel gear housing and hollow shaft. The gearboxes are lubricated for life and can be supplied with a lubricant approved for the food industry. The oil sealings are made of nitrile rubber.

In order to reduce the risk of bacteria growth, the design is characterised by smooth surfaces without unnecessary flanges, recesses and mounting holes.

When a completely sanitary gear motor is required, the stainless steel worm gearbox can be fitted with a stainless AC motor or a servomotor.

IP protection

The protection of the gears is IP65, and IP66 of stainless motors, which ensures that the products can be cleaned with e.g. pressurised water from all directions. To achieve an overall protection of IP66 for the assembly of gearboxes and motor, you need to use a nitrile rubber gasket for the joint.

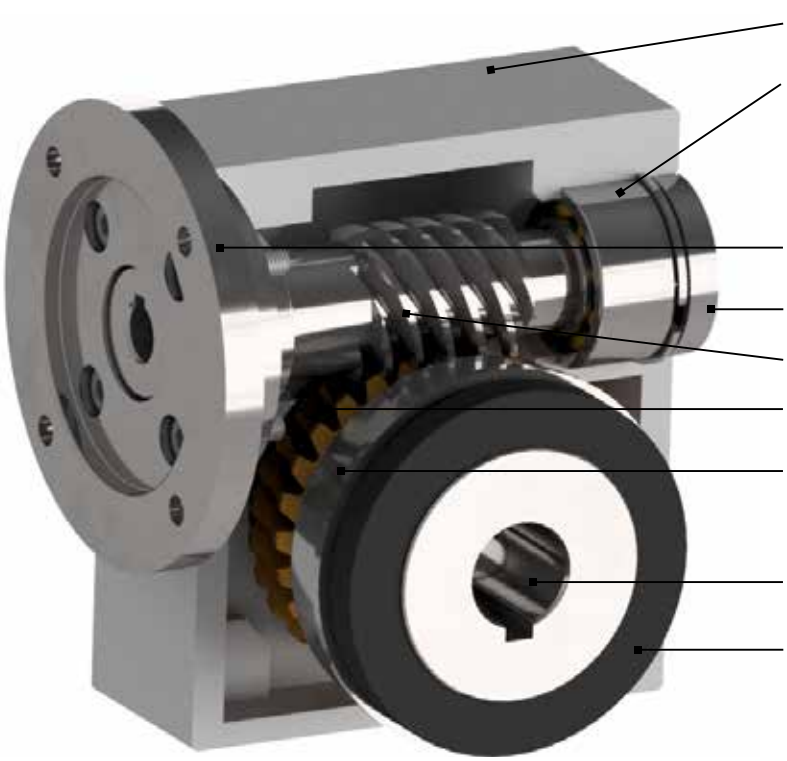
ATEX

Type designation

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

We believe that an unambiguous type designation of our stainless steel gearboxes eases the communication. Therefore, throughout this brochure the position of each item in the type designation will be shown.

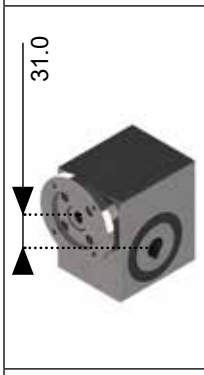
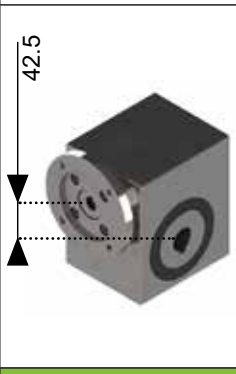
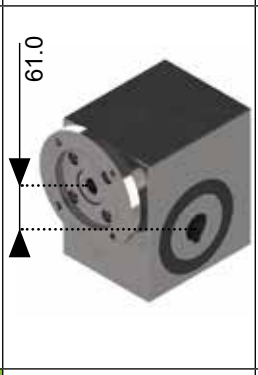
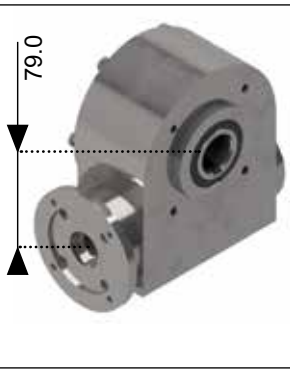
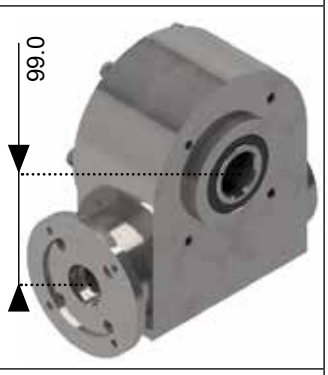
The number 1 indicates that it is a worm gear.



Gearbox sizes

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

The stainless steel worm gearboxes are as standard made in five sizes: 31, 42, 61, 79 and 99. The number indicates the centre distance of the axles and thus the gear size.

Series 31	Series 42	Series 61	Series 79	Series 99
				
31	42	61	79	99

Service factor

The operating conditions is of importance to the durability of the gear. The gear should therefore be dimensioned according to the service factors.

Please note that the values applies for operation with a standard electric AC motor.

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

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
	0-500	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

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.

- 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 BJ-Gear A/S for further information.

Motor		Series 31											
		Gear ratio	5:1	7:1	10:1	15:1	20:1	25:1	30:1	38:1	50:1	60:1	75:1
	[kW]	n_2 [rpm]	180	129	90	60	45	36	30	24	18	15	12
900			Output torque [Nm]/Strength factor										
	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							
	[kW]	n_2 [rpm]	280	200	140	93	70	56	47	37	28	23	19
1400			Output torque [Nm]/Strength factor										
	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				
	0.18[1]		5.1/2.2	7.0/1.7	9.2/1.2	13/1.0							
	[kW]	n_2 [rpm]	560	400	280	187	140	112	93	74	56	47	37
2800			Output torque [Nm]/Strength factor										
	0.09		1.3/8.0	1.85/5.8	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	8.0/0.9
	0.12		1.7/6.0	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]		2.6/4.0	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]		3.3/3.0	5.0/2.1	6.6/1.5	9.5/1.2	11.8/0.9	13.0/0.9					

The values are for gears that are well run in and properly heated for operation.

1. Available as stainless steel motor.
2. High output design.

Tables of effect

Motor		Series 42											
		Gear ratio	5.4:1	7.5:1	10:1	15:1	20:1	25:1	30:1	40:1	50:1	62:1	75:1
	[kW]	n_2 [rpm]	130	93	70	47	35	28	23	18	14	11	9
700			Output torque [Nm]/Strength factor										
	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									
	[kW]	n_2 [rpm]	167	120	90	60	45	36	30	23	18	15	12
			Output torque [Nm]/Strength factor										
900	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										
	[kW]	n_2 [rpm]	259	187	140	93	70	56	47	35	28	23	19
			Output torque [Nm]/Strength factor										
1400	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								
	[kW]	n_2 [rpm]	519	373	280	187	140	112	93	70	56	45	37
			Output torque [Nm]/Strength factor										
2800	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										

The values are for gears that 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								
		Gear ratio	7:1	10:1	15:1	21:1	30:1	40:1	48:1	60:1
	[kW]	n_2 [rpm]	100	70	47	33	23	17	15	11
			Output torque [Nm]/Strength factor							
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						
	[kW]	n_2 [rpm]	129	90	60	43	30	23	19	15
			Output torque [Nm]/Strength factor							
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	164/1.3	
	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							
	[kW]	n_2 [rpm]	200	140	93	67	47	35	29	23
			Output torque [Nm]/Strength factor							
1400	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						
	[kW]	n_2 [rpm]	400	280	187	133	93	70	58	47
			Output torque [Nm]/Strength factor							
2800	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							

The values are for gears that 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 79								
		Gear ratio	7.33:1	10:1	15:1	21:1	30:1	42:1	50:1	62:1
	[kW]	n_2 [rpm]	95	70	47	33	23	17	14	11
			Output torque [Nm]/Strength factor							
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							
	[kW]	n_2 [rpm]	123	90	60	43	30	21	18	15
			Output torque [Nm]/Strength factor							
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							
	[kW]	n_2 [rpm]	191	140	93	67	47	33	28	23
			Output torque [Nm]/Strength factor							
1400	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						
	[kW]	n_2 [rpm]	382	280	187	133	93	67	56	45
			Output torque [Nm]/Strength factor							
2800	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						

The values are for gears that 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

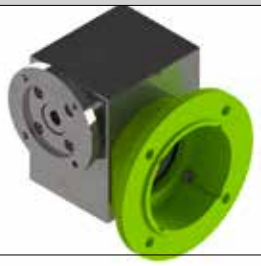
Motor		Series 99								
		Gear ratio	7:1	10:1	15:1	20:1	30:1	40:1	50:1	60:1
	[kW]	n_2 [rpm]	100	70	47	35	23	18	14	11
700			Output torque [Nm]/Strength factor							
	0.75		61/8.8	86/7.5	124/3.7	159/4.1	218/7.3	271/4.1	319/2.6	359/1.8
	1.10		91/5.9	128/5.0	183/5.0	236/2.8	323/5.0	401/2.8	472/1.8	531/1.2
	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						
	[kW]	n_2 [rpm]	129	90	60	45	30	23	18	15
900			Output torque [Nm]/Strength factor							
	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							
	[kW]	n_2 [rpm]	200	140	93	70	47	35	28	23
1400			Output torque [Nm]/Strength factor							
	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						
	[kW]	n_2 [rpm]	400	280	187	140	93	70	56	47
2800			Output torque [Nm]/Strength factor							
	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							

The values are for gears that 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 the gearbox

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

	Mounting in gear housing	Mounting in side flange
Stainless housing series 31, 42 and 61		
Stainless housing series 79 and 99		
Standard	**40**	**41**

There are different opportunities for types of housing depending on gear assembly. ”4” indicates that the housing is of stainless steel.

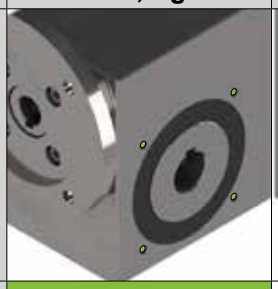
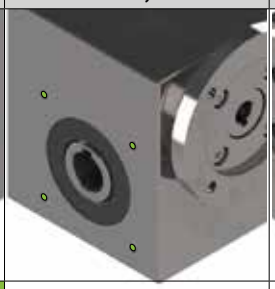
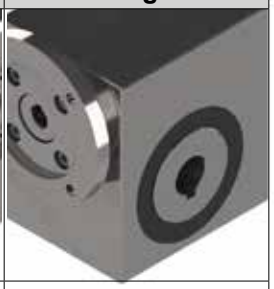
Second digit in the itemnumber is defined by the choice between a bearing cover or a side flange.

For series 31, 42 and 61 there are two options; a standard bearing cover (0) or a side flange (1). For series 79 and 99 the bearing cover is standard.

Output shaft

Mounting holes

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

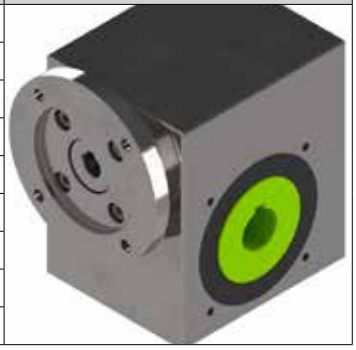
	Extra mounting holes, right	Extra mounting holes, left	Without extra mounting holes
Hollow shaft			
Standard, stainless steel shaft	4 (*6 for Ø38)	5 (*7 for Ø38)	0 (*8 for Ø38)

BJ-Gear A/S offers different choices of output shafts.

For stainless steel worm gearboxes the options are either right sided, left sided or with no extra mounting holes.

Shaft size

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

Series / BCD	31	42	61	79	99	
Ø18		7				
Ø20		1				
Ø25			3			
Ø30			4	4		
Ø35				5	5	
Ø38				5*	5*	
Ø40				8	8	
Ø45					9	
Ø48					6	

The second digit indicates the size of the hollow shaft. If the requested size is not mentioned, please feel free to contact us for further information.

*When a Ø38 hollow shaft is requested please be aware of the changed first digit. When a hollow shaft with mounting holes to the right is requested, the number in the type designation is 65. If a hollow shaft with mounting holes to the left is requested, the number has to be 75. And finally if your request is a hollow shaft with no extra mounting holes the number to choose is 85. Other shaft sizes are available on request.

Output shaft material

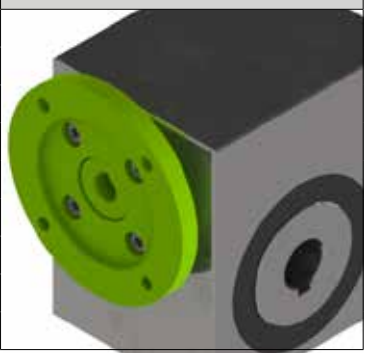
1	42	4	0	41	1	12	02	01	30	0	1

Standard, stainless steel shaft	1	
Stainless steel shaft, tap. roller bearings	3	Only available for series 79 and 99

This digit indicates the material of the shaft, where "1" is the standard stainless steel shaft. Options are available.

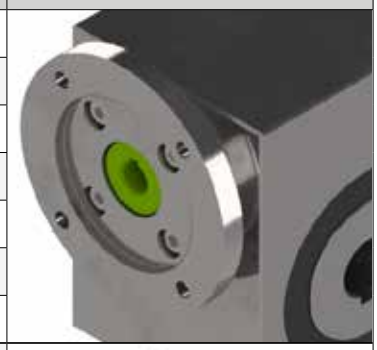
D-side

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

IEC norm (B14)	Motor flange [BCD]	31	42	61	79	99	
No flange		00	00	00	00	00	
56	**65**	-	-	-	-	-	
63	**75**	11	11	11	-	-	
71	**85**	12	12	12	-	-	
80	**100**	13	13	13	13	-	
90	**115**	14	14	14	14	14	
100/112	**130**	15	15	15	15	15	
132	**165**	-	-	16	16	16	
	215	-	-	-	17	17	

Inputshaft

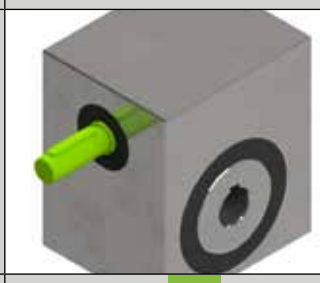
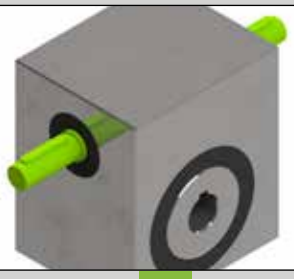
1	42	4	0	41	1	12	02	01	30	0	1

	31	42	61	79	99	
Ø9	-	-	-	-	-	
Ø11	01	01	-	-	-	
Ø14	02	02	02	-	-	
Ø19	-	-	03	03	-	
Ø24	-	-	04	04	04	
Ø28	-	-	-	05	05	
Ø38	-	-	-	-	06	
Free shaft on ND side Ø9	20	-	-	-	-	
Free shaft on ND side Ø11	21	21	-	-	-	
Free shaft on ND side Ø14	22	22	22	-	-	
Free shaft on ND side Ø19	-	-	23	23	-	
Free shaft on ND side Ø24	-	-	24	24	24	
Free shaft on ND side Ø28	-	-	-	25	25	
Free shaft on ND side Ø38	-	-	-	-	26	

Motor size and power

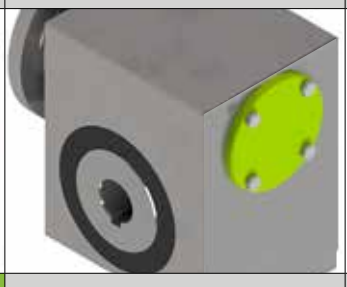
Standard motors	Size 63	Size 71	Size 80	Size 90	Size 100/112	Size 132
Motor Power [kW] for 700 min^{-1}	0.06	0.09	0.18	0.37	0.75	2.2
	-	0.12	0.25	0.55	1.1	3.0
	-	-	-	-	1.5	-
Motor Power [kW] for 900 min^{-1}	0.12	0.18	0.37	0.75	1.5	3.0
	-	0.25	0.55	1.1	2.2	4.0
	-	-	-	-	-	5.5
Motor Power [kW] for 1400 min^{-1}	0.12	0.25	0.55	1.1	2.2	5.5
	0.18	0.37	0.75	1.5	3.0	7.5
	-	-	-	-	4.0	-
Motor Power [kW] for 2800 min^{-1}	0.18	0.37	0.75	1.5	3.0	5.5
	0.25	0.55	1.1	2.2	4.0	7.5
	-	-	-	-	5.5	-

D-side and inputshaft for gearboxes without motor

	Closed ND-side	Throughgoing worm with free shaft on ND-side
Free worm shaft on D-side		
Item number	**1-42-40411-3040-01-30-01**	**1-42-40411-3050-01-30-01**

ND-side

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

Closed end cover, standard. Available for worm without free shaft on the ND-side	**Closed end cover in stainless steel, heavy duty.** Available for worm without free shaft on the ND-side	**Open end cover.** For worm with free shaft on the ND-side
		
01	11	**30**

Ratios

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

31		42		61		79		99	
Gear ratio n_2 [rpm]	Ratio code	Gear ratio n_2 [rpm]	Ratio code	Gear ratio n_2 [rpm]	Ratio code	Gear ratio n_2 [rpm]	Ratio code	Gear ratio n_2 [rpm]	Ratio code
5:1	05	5.4:1	05	-	-	-	-	-	-
7:1	07	7.5:1	07	7:1	07	7.33:1	07	7:1	07
10:1	10	10:1	10	10:1	10	10:1	10	10:1	10
15:1	15	15:1	15	15:1	15	15:1	15	15:1	15
20:1	20	20:1	20	21:1	20	21:1	20	20:1	20
25:1	25	25:1	25	-	-	-	-	-	-
30:1	30	30:1	30	30:1	30	30:1	30	30:1	30
38:1	40	40:1	40	40:1	40	42:1	40	40:1	40
50:1	50	50:1	50	48:1	50	50:1	50	50:1	50
60:1	60	62:1	60	60:1	60	62:1	60	60:1	60
75:1	75	75:1	75	-	-	-	-	-	-

Choice of lubricants

1	42	4	0	41	1	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 depending 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.

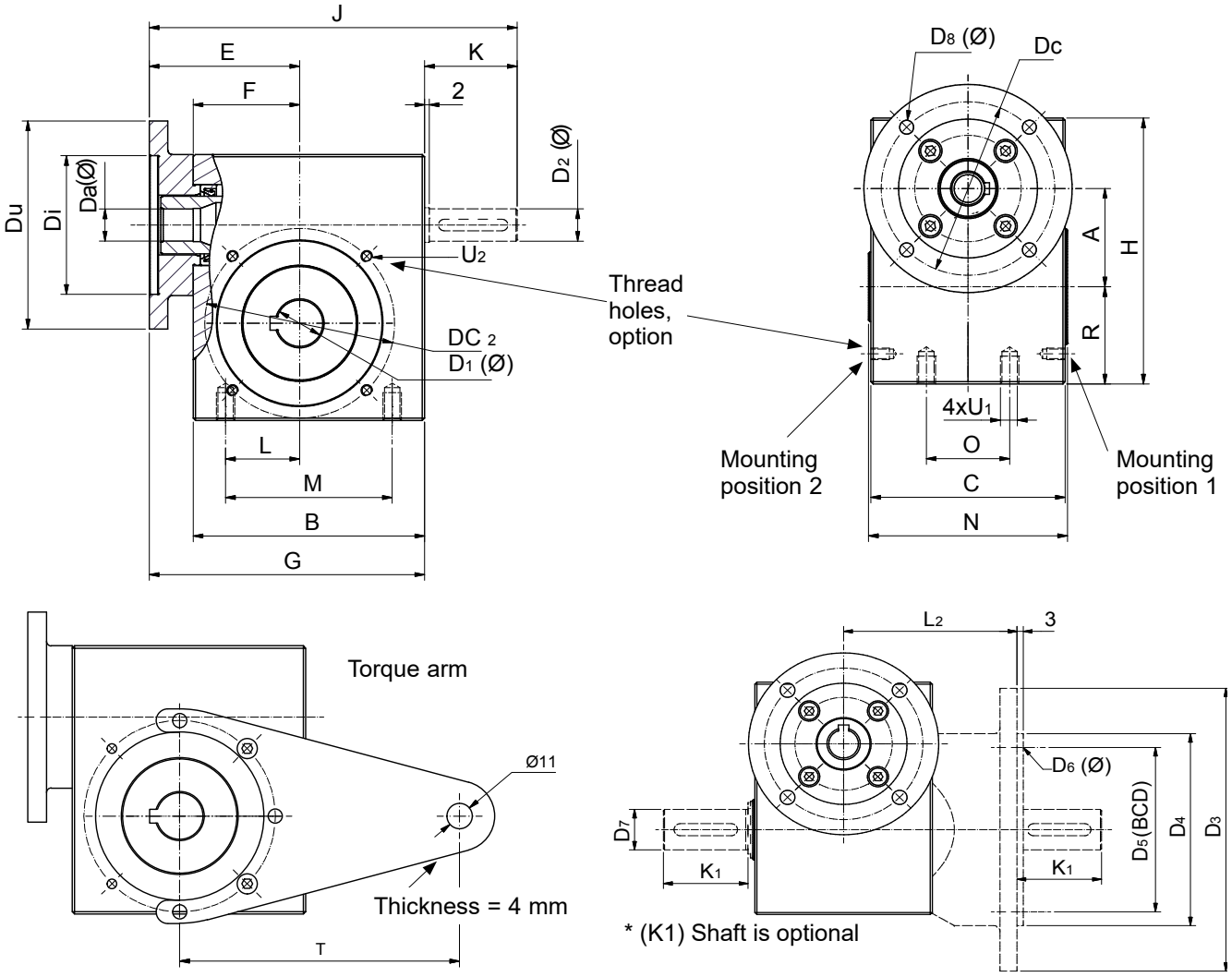
Choice of finish

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

1	No treatment (Standard for stainless steel gears)

Dimensional drawings

Series 31, 42 and 61



Optional covers for output shafts

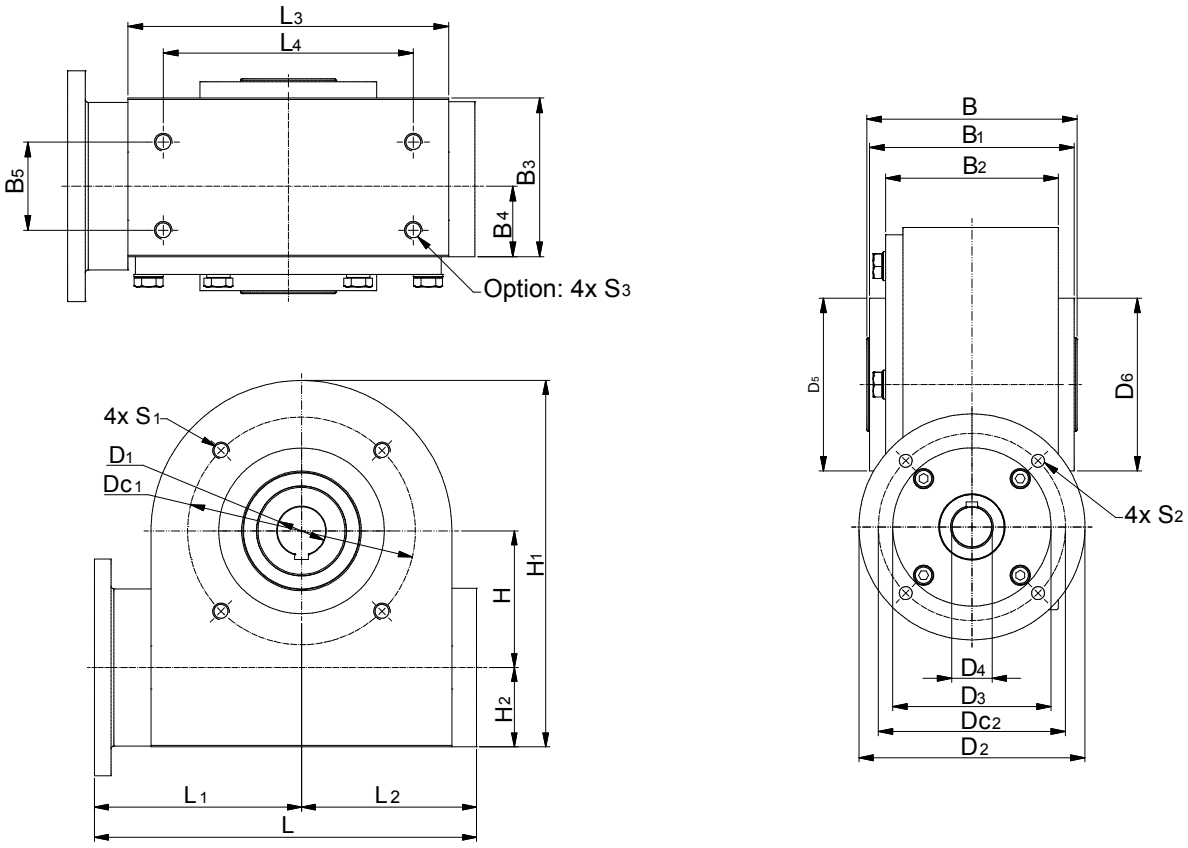
Gear	A	B	C	D1 (H8)	D2 (K6)	D3	D4	D5	D6	D7 (K6)	F	H	K	K1	L	L2	M	N	O	R	T	U1	U2	X	Y
31	31	79	60	14	9	115	80	100	7	14	34	88	22	30	28	59	60	62	40	33.5	100	M6	M4	8	65
42	42.5	100	84	20	14	140	95	115	9	20	46	115	40	40	32	82	72	86	36	42	120	M8	M5	10	86
61	61	135	108	25 /30	19	200	130	165	11	30	56	153	42	60	41	104	106	110	42	56	160	M10	M6	13	110

Key and keyway according to DIN 6885 except size 31: Key equal 5 x 4.3 mm. All measurements in millimeters

Gear	Motor size	Flange size	Du	Di (F6)	Da (G7)	Dc	Dc2	D8	E	G	J	Weight kg
31	56	65	80	50	9	65	63	6	51	96	118	3
	63	75	90	60	11	75	63	6	51			
42	63	75	90	60	11	75	82	6	65	119	159	6
	71	85	105	70	14	85	82	7	65			
61	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	

Dimensional drawings

Series 79 and 99



Optional covers for output shafts

Gear series	Flange size	Motor size	L	L1	L2	L3	L4	B	B1	B2	B3	B4	B5	H	H1	H2
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 acc. to DIN 6885 All measurements in millimeters

Gear series	Flange size	Motor size	D1 (H8)	D2	D3 (F6)	D4 (G7)	D5	D6 (H6)	Dc1 (H6)	Dc2	S1	S2	S3	Weight/ kg
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.

Accessories for complete solutions

BJ-Gear A/S manufactures a wide range of stainless steel products. In addition to our manufactured gearboxes and actuators, we supply transmission components of recognised brands, which makes it possible to supply complete transmission solutions at short notice.

When choosing BJ-Gear A/S as a total supplier, you are guaranteed correct assembly of all components with a functional test subsequently. All components are stocked or manufactured for prompt delivery.

/// Stainless steel motors

The stainless steel AC motors are of acid-resistant steel and in protection classes from IP66 to IP69K. They are available as TENV (Totally Enclosed Non-Ventilated) up to effects of 0.75 kW or as TEFV (Totally Enclosed Fan Cooled).

The motors are equipped with thermistors as standard. The completely smooth surface makes them ideal for use within the food industry or where an easy-to-clean design is important.

/// Brake in stainless steel

The stainless steel brakes from BJ-Gear A/S meet the high demands and standards required by e.g. the food industry for products to be used directly in a process line. They have a hygienic design with a smooth surface and are easy and simple to incorporate. The brakes are available in three sizes with a torque from 5-20 Nm. They fit IEC motor sizes 63, 71, 80 and 90 (B14). Other sizes can be made on request.

The brakes are designed to be mounted between a flanged motor and a gearbox, where the output shaft is not to be subjected to additional axial or radial loads. The protection is IP68/69 when mounted between gear and motor.

Motor frame size	Brake size	MbN* (Nm)	P 20° C (Watt)	Cable length standard (M)
63,71	08	5	22	1
80	10	10	28	1
90	13	20	24	1

*Braking torque after completion of run-in. The brake is designed to be mounted between a flanged motor and a gearbox, hence the output shaft is not to be subjected to additional axial or radial loads.

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