



**CAUTION**

Please note that the GPLE22 gears are only available together with a motor.

TECHNICAL DATA

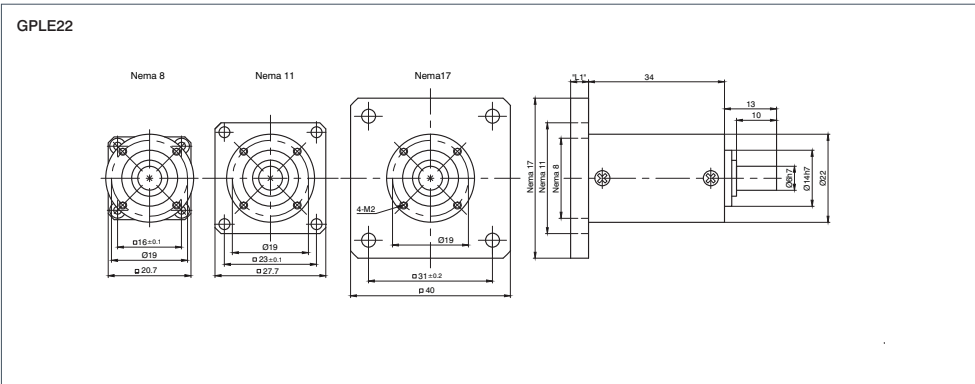
IP protection	IP43
Service life	10.000 hours
Combination with motor	NEMA 8, 11, 17
Working temperature	-25 °C to 90 °C
Admissible radial/axial shaft load (N)	20/20
Moment of inertia kg mm <sup>2</sup>	0.09

VERSIONS

Type	Reduction Ratio	Output Torque Nominal Nm	Efficiency %	Backlash (arc minutes)	Moment of Inertia kg mm <sup>2</sup>	Length „A“ mm	Intermediate Flange L1 mm	Weight kg
GPLE22-2S-9	9	1.5	80	<55	0.09	34	4.3, 4.45*	0.1
GPLE22-2S-12	12	1.5	80	<55	0.09	34	4.3, 4.45*	0.1
GPLE22-2S-15	15	1.5	80	<55	0.09	34	4.3, 4.45*	0.1

\* The intermediate flange size (L1) of NEMA 8 and 11 motors is 4.45 mm and 4.3 mm for NEMA 17 motors.

DIMENSIONS (IN MM)





ORDER IDENTIFIER

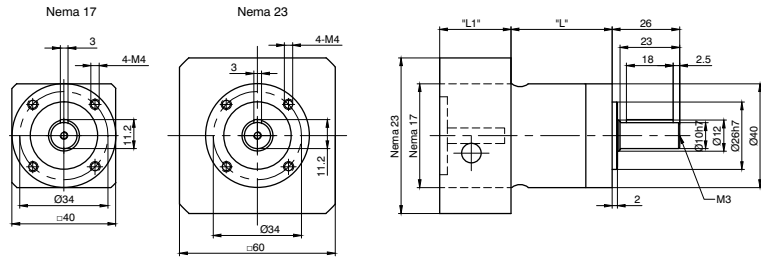
**GPLE40-1S-3**  
 = for NEMA 17 Motor  
 F56 = for NEMA 23, 24 Motor

TECHNICAL DATA

IP protection	IP54
Service life	30.000 hours
Combination with motor	NEMA 17, 23, 24
Working temperature	-25 °C to 90 °C
Admissible radial/axial shaft load (N)	200/200, (160/160)

DIMENSIONS (IN MM)

GPLE40



VERSIONS

Type	Reduction Ratio	Output Torque Nominal Nm	Output Torque Max. Value Nm	Efficiency %	Backlash ' (arc minutes)	Moment of Inertia kg mm <sup>2</sup>	Length „A“ mm	Intermediate Flange L1 mm	Weight kg
GPLE40-1S-3	3	11	17.5	97	<15	3.1	39	24.5, 27.5*	0.35
GPLE40-1S-4	4	15	24	97	<15	2.2	39	24.5, 27.5*	0.35
GPLE40-1S-5	5	14	22	97	<15	1.9	39	24.5, 27.5*	0.35
GPLE40-1S-8	8	6	10	97	<15	1.7	39	24.5, 27.5*	0.35
GPLE40-2S-9	9	16.5	26	95	<19	3	52	24.5, 27.5*	0.45
GPLE40-2S-12	12	20	32	95	<19	2.9	52	24.5, 27.5*	0.45
GPLE40-2S-15	15	18	29	95	<19	2.3	52	24.5, 27.5*	0.45
GPLE40-2S-16	16	20	32	95	<19	2.2	52	24.5, 27.5*	0.45
GPLE40-2S-20	20	20	32	95	<19	1.9	52	24.5, 27.5*	0.45
GPLE40-2S-25	25	18	29	95	<19	1.9	52	24.5, 27.5*	0.45
GPLE40-2S-32	32	20	32	95	<19	1.7	52	24.5, 27.5*	0.45
GPLE40-2S-40	40	18	29	95	<19	1.6	52	24.5, 27.5*	0.45
GPLE40-2S-64	64	7.5	12	95	<19	1.6	52	24.5, 27.5*	0.45
GPLE40-3S-60	60	20	32	91	<22	2.9	64.5	24.5, 27.5*	0.55
GPLE40-3S-80	80	20	32	91	<22	1.9	64.5	24.5, 27.5*	0.55
GPLE40-3S-100	100	20	32	91	<22	1.9	64.5	24.5, 27.5*	0.55
GPLE40-3S-120	120	18	29	91	<22	2.9	64.5	24.5, 27.5*	0.55
GPLE40-3S-160	160	20	32	91	<22	1.6	64.5	24.5, 27.5*	0.55
GPLE40-3S-200	200	18	29	91	<22	1.6	64.5	24.5, 27.5*	0.55
GPLE40-3S-256	256	20	32	91	<22	1.6	64.5	24.5, 27.5*	0.55
GPLE40-3S-320	320	18	29	91	<22	1.6	64.5	24.5, 27.5*	0.55
GPLE40-3S-512	512	7.5	12	91	<22	1.6	64.5	24.5, 27.5*	0.55

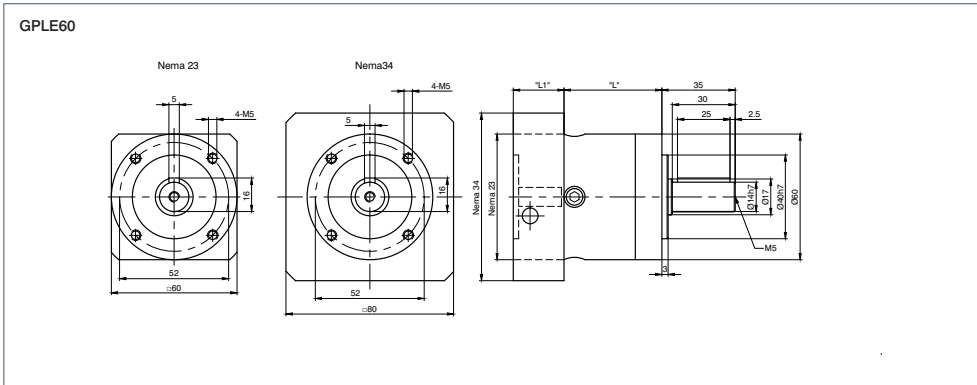
\* The intermediate flange size (L1) of NEMA 23 and 24 motors is 24.5 mm and 27.5 mm for NEMA 17 motors.



**TECHNICAL DATA**

<b>IP protection</b>	IP54
<b>Service life</b>	30.000 hours
<b>Combination with motor</b>	NEMA 23, 24, 34
<b>Working temperature</b>	-25 °C to 90 °C
<b>Admissible radial/axial shaft load (N)</b>	400/500, (340/450)

**DIMENSIONS (IN MM)**



**ORDER IDENTIFIER**

**GPLE60-1S-3**  
= for NEMA 23, 24 Motor  
-F87 = for NEMA 34 Motor



**ACCESSORIES**

**MK-DH-8-11-GPLE** Spacer Sleeve



**VERSIONS**

Type	Reduction Ratio	Output Torque Nominal Nm	Output Torque Max. Value Nm	Efficiency %	Backlash <sup>1</sup> (arc minutes)	Moment of Inertia kg mm <sup>2</sup>	Length „A“ mm	Intermediate Flange L1 mm	Weight kg
GPLE60-1S-3	3	28	45	97	<10	13.5	47	24, 39*	0.9
GPLE60-1S-4	4	38	61	97	<10	9.3	47	24, 39*	0.9
GPLE60-1S-5	5	40	64	97	<10	7.8	47	24, 39*	0.9
GPLE60-1S-8	8	18	29	97	<10	6.5	47	24, 39*	0.9
GPLE60-2S-9	9	44	70	95	<12	13.1	59.5	24, 39*	1.1
GPLE60-2S-12	12	44	70	95	<12	12.7	59.5	24, 39*	1.1
GPLE60-2S-15	15	44	70	95	<12	7.7	59.5	24, 39*	1.1
GPLE60-2S-16	16	44	70	95	<12	8.8	59.5	24, 39*	1.1
GPLE60-2S-20	20	44	70	95	<12	7.5	59.5	24, 39*	1.1
GPLE60-2S-25	25	40	64	95	<12	7.5	59.5	24, 39*	1.1
GPLE60-2S-32	32	44	70	95	<12	6.4	59.5	24, 39*	1.1
GPLE60-2S-40	40	40	64	95	<12	6.4	59.5	24, 39*	1.1
GPLE60-2S-64	64	18	29	95	<12	6.4	59.5	24, 39*	1.1
GPLE60-3S-60	60	44	70	91	<15	7.6	72	24, 39*	1.3
GPLE60-3S-80	80	44	70	91	<15	7.5	72	24, 39*	1.3
GPLE60-3S-100	100	44	70	91	<15	7.5	72	24, 39*	1.3
GPLE60-3S-120	120	44	70	91	<15	6.4	72	24, 39*	1.3
GPLE60-3S-160	160	44	70	91	<15	6.4	72	24, 39*	1.3
GPLE60-3S-200	200	40	64	91	<15	6.4	72	24, 39*	1.3
GPLE60-3S-256	256	44	70	91	<15	6.4	72	24, 39*	1.3
GPLE60-3S-320	320	40	64	91	<15	6.4	72	24, 39*	1.3
GPLE60-3S-512	512	18	29	91	<15	6.4	72	24, 39*	1.3

\* The intermediate flange size (L1) of NEMA 23 and 24 motors is 24.5 mm and 39 mm for NEMA 34 motors.



ORDER IDENTIFIER

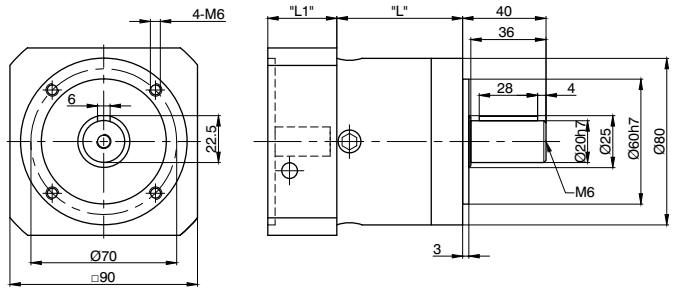
**GPLE80-1S-F87**  
F87 = for NEMA 34 Motor

TECHNICAL DATA

IP protection	IP54
Service life	30.000 hours
Combination with motor	NEMA 34
Working temperature	-25 °C to 90 °C
Admissible radial/axial shaft load (N)	750/1000, (650/900)

DIMENSIONS (IN MM)


GPLE80



VERSIONS

Type	Reduction Ratio	Output Torque Nominal Nm	Output Torque Max. Value Nm	Efficiency %	Backlash (arc minutes)	Moment of Inertia kg mm <sup>2</sup>	Length „A“ mm	Intermediate Flange L1 mm	Weight kg
GPLE80-1S-3-F87	3	85	136	97	<7	77	60.5	41.5	2.1
GPLE80-1S-4-F87	4	115	184	97	<7	52	60.5	41.5	2.1
GPLE80-1S-5-F87	5	110	176	97	<7	45	60.5	41.5	2.1
GPLE80-1S-8-F87	8	50	80	97	<7	39	60.5	41.5	2.1
GPLE80-2S-9-F87	9	130	208	95	<9	74	77.5	41.5	2.6
GPLE80-2S-12-F87	12	120	192	95	<9	72	77.5	41.5	2.6
GPLE80-2S-15-F87	15	110	176	95	<9	71	77.5	41.5	2.6
GPLE80-2S-16-F87	16	120	192	95	<9	50	77.5	41.5	2.6
GPLE80-2S-20-F87	20	120	192	95	<9	44	77.5	41.5	2.6
GPLE80-2S-25-F87	25	110	176	95	<9	44	77.5	41.5	2.6
GPLE80-2S-32-F87	32	120	192	95	<9	39	77.5	41.5	2.6
GPLE80-2S-40-F87	40	110	176	95	<9	39	77.5	41.5	2.6
GPLE80-2S-64-F87	64	50	80	95	<9	39	77.5	41.5	2.6
GPLE80-3S-60-F87	60	110	176	91	<11	51	95	41.5	3.1
GPLE80-3S-80-F87	80	120	192	91	<11	50	95	41.5	3.1
GPLE80-3S-100-F87	100	120	192	91	<11	44	95	41.5	3.1
GPLE80-3S-120-F87	120	110	176	91	<11	70	95	41.5	3.1
GPLE80-3S-160-F87	160	120	192	91	<11	39	95	41.5	3.1
GPLE80-3S-256-F87	256	120	192	91	<11	39	95	41.5	3.1
GPLE80-3S-320-F87	320	110	176	91	<11	39	95	41.5	3.1
GPLE80-3S-512-F87	512	50	80	91	<11	39	95	41.5	3.1



**CAUTION** 

Please note that the GPLL gears are only available together with a motor.

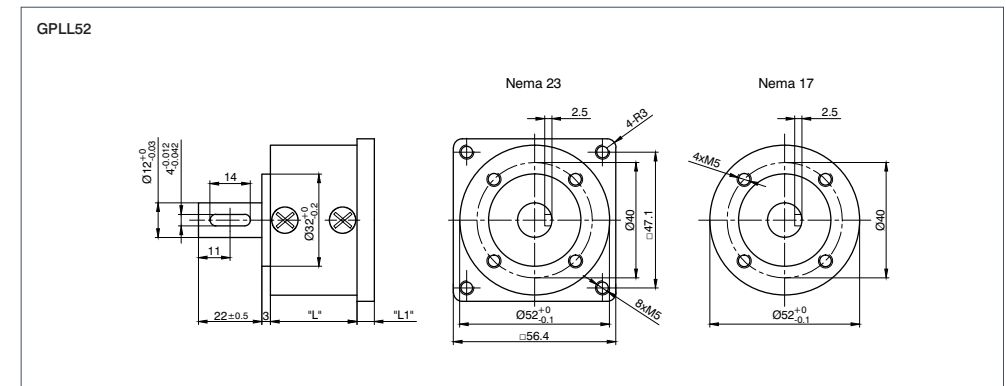
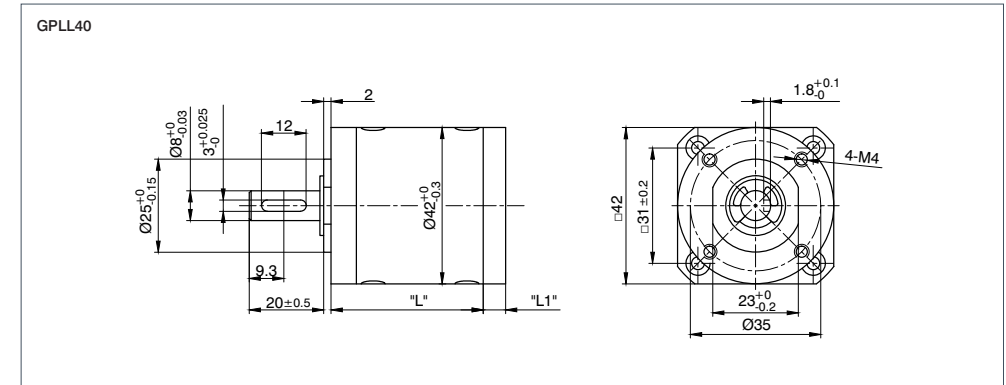
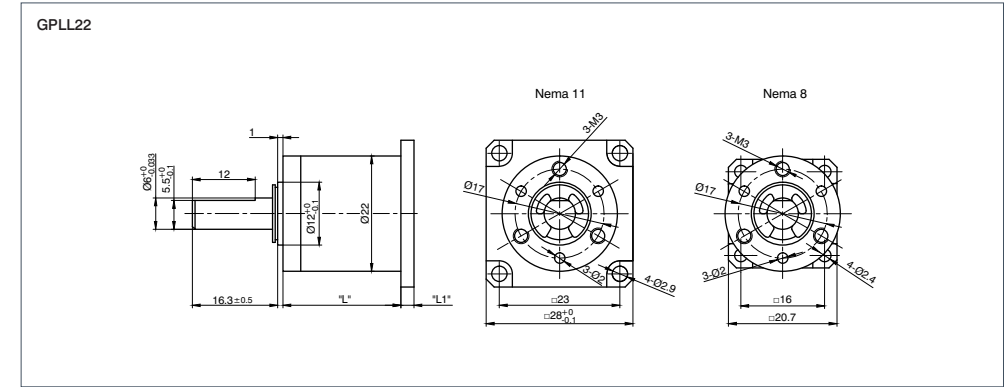
**TECHNICAL DATA**

	<b>GPLL22</b>	<b>GPLL40</b>	<b>GPLL52</b>
<b>Combination with motor</b>	ST20/28, DB28	ST40/41/42, DB42	ST57/58/59/60 DB57/87
<b>Axial/radial load (N)</b>	7/10	30/50	100/200
<b>Expected lifetime</b>	LH 10 > 1000 hours		
<b>Operating temperature</b>	-10 °C to +80 °C		
<b>Protection class</b>	IP54		

**VERSIONS**

Type	Reduction Ratio	Output Torque Nominal Nm	Output Torque Max. Value Nm	Efficiency %	Backlash (arc minutes)	Length „A“ mm	Weight kg
GPLL22-5	5	0.2	60	80	<150	23.3	0.046
GPLL22-25	25	0.3	90	70	<150	29.5	0.051
GPLL22-90	90	0.4	120	60	<150	35.7	0.058
GPLL40-4	4	0.5	150	80	<180	27.5	0.191
GPLL40-14	14	1	300	70	<180	34.2	0.193
GPLL40-24	24	1	300	70	<180	34.2	0.193
GPLL40-49	49	1.8	540	60	<180	40.9	0.233
GPLL52-4	4	1.5	450	80	<180	53	0.475
GPLL52-15	15	5	1500	70	<180	68.5	0.66
GPLL52-53	53	10	3000	60	<180	84	0.85
GPLL52-100	100	10	3000	60	<180	84	0.85

**DIMENSIONS (IN MM)**





CAUTION



Please note that the GPLL-HT gears are only available together with a motor.

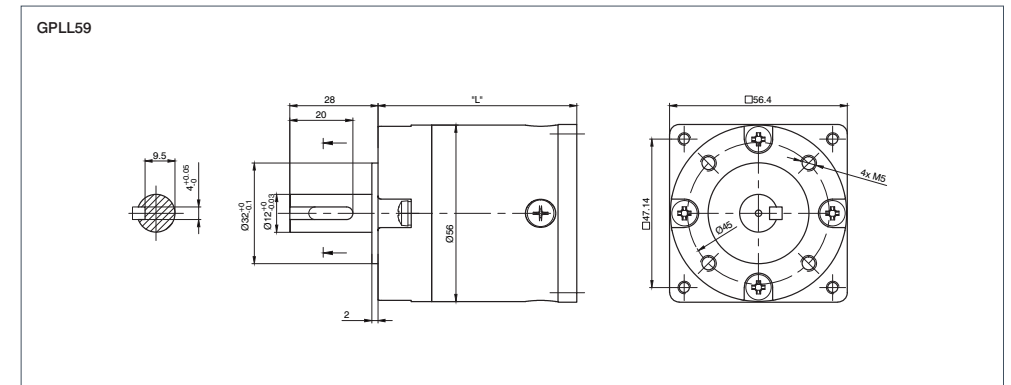
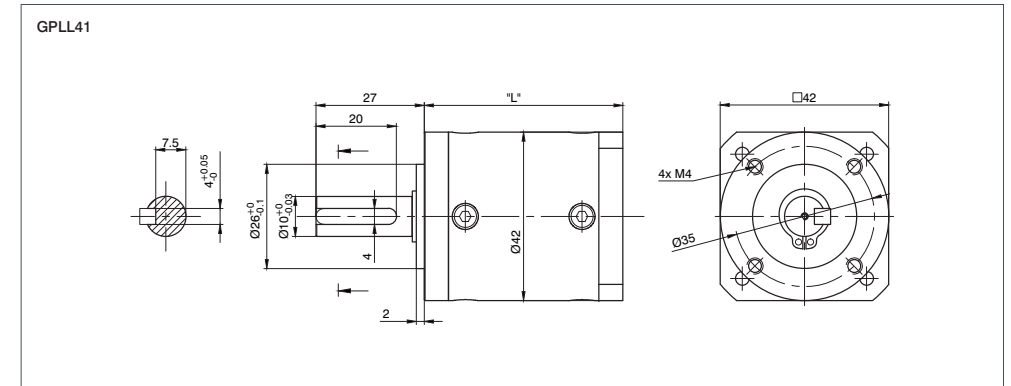
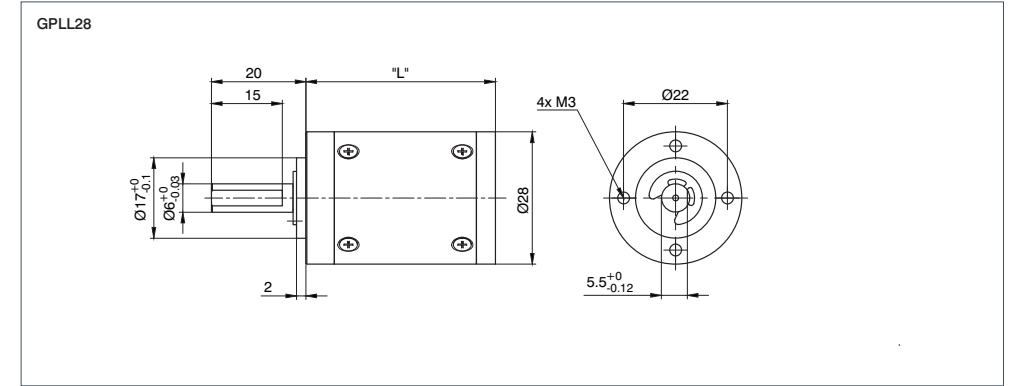
TECHNICAL DATA

	GPLL28	GPLL41	GPLL59
Combination with motor	DB28	ST41/42, DB42	ST59, DB57/59
Axial/radial load (N)	25/35	30/80	100/250
Expected lifetime	3000 operating hours		
Operating temperature	-10 °C to +80 °C		
Protection class	IP54		

VERSIONS

Type	Reduction Ratio	Output Torque Nominal Nm	Output Torque Max. Value Nm	Efficiency %	Backlash	Length „L“ mm	Weight kg
GPLL28-3,7	3.7	0.3	1	90	≤ 3°	31	0.077
GPLL28-14	14	1.2	3.5	81	≤ 3°	40.1	0.096
GPLL28-51	51	2.5	7.5	73	≤ 3°	120	0.12
GPLL41-4,44	4.44	2.0	6	90	≤ 3°	39	0.25
GPLL41-17	17	8	25	81	≤ 3°	49.5	0.32
GPLL41-65	65	16	50	73	≤ 3°	59.9	0.38
GPLL59-4	4	4	12	90	≤ 3°	46.6	0.6
GPLL59-15	15	16	50	81	≤ 3°	63.1	0.9
GPLL59-55	55	32	100	73	≤ 3°	82.6	1.23

DIMENSIONS (IN MM)





### DESCRIPTION

Worm gears of the GSGE60 series can be mounted on any stepper motor size 56 x 56 mm (NEMA 23) and on stepper motors of the ST6018 series. They are pre-lubricated at the factory with a high-quality synthetic long-life lubricant and are maintenance free.

Because of their high backlash (appr. 1-2 °), worm gears are not suitable for positioning applications.

### ACCESSORIES

**Double Shaft Cover** for GSGE60 for GSGE60



### CAUTION



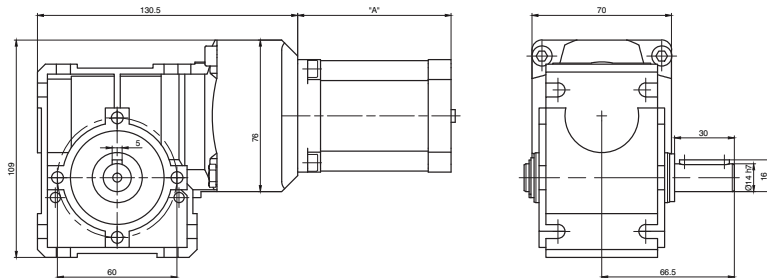
Please note that the GSGE60 gears are only available together with a motor.

### VERSIONS

Type	Reduction Ratio	Output Torque Nominal Nm	Efficiency %	Backlash (arc minutes)	Weight kg	Self-Locking Torque	Motor combination with
GSGE60-5-1	5	30	86	<120	2	No	Nema 23
GSGE60-15-1	15	30	71	<120	2	No	Nema 23
GSGE60-25-1	25	30	63	<120	2	No	Nema 23
GSGE60-50-1	50	30	45	<120	2	Yes	Nema 23

### DIMENSIONS (IN MM)

GSGE60



### DESCRIPTION

The worm gears of the GSGE80 series can be mounted on any stepper motor size 86x86 mm (NEMA 34). They are pre-lubricated at the factory with a high-quality synthetic long-life lubricant and are maintenance free.

Because of their high backlash (appr. 1-2 °), worm gears are not suitable for positioning applications.

### CAUTION



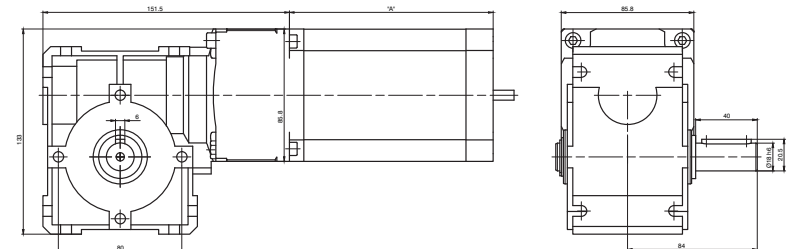
Please note that the GSGE80 gears are only available together with a motor.

### VERSIONS

Type	Reduction Ratio	Output Torque Nominal Nm	Efficiency %	Backlash (arc minutes)	Weight kg	Self-Locking Torque	Motor combination with
GSGE80-12.5-1	12.5	50	80	<120	3	No	Nema 34
GSGE80-25-1	25	50	68	<120	3	No	Nema 34
GSGE80-50-1	50	50	50	<120	3	Yes	Nema 34

### DIMENSIONS (IN MM)

GSGE80



Distributeur Nederland:

Motion Control Systems b.v.  
Specialist in Motion control.  
Touwslagerij 19 4762AT Zevenbergen  
Tel: 0168 325077 - Fax 0168 328134  
info@motion.nl - www.motion.nl

Product advies en technische info: [service@motion.nl](mailto:service@motion.nl)  
Bestellingen doorsturen naar : [sales@motion.nl](mailto:sales@motion.nl)

**EUROPE:**

Nanotec Electronic GmbH & Co. KG  
Kapellenstraße 6  
85622 Feldkirchen/Munich, Germany

Phone: +49 (0) 89 900 686-0  
Fax: +49 (0) 89 900 686-50  
E-mail: [info@nanotec.de](mailto:info@nanotec.de)

**NORTH AMERICA:**

Nanotec Electronic, U.S., Inc.  
98 Sheridan Avenue  
Medford, MA 02155 USA

Phone: +1 781 219 33 43  
Fax: +1 781 498 13 44  
E-mail: [info@us.nanotec.com](mailto:info@us.nanotec.com)

**ASIA:**

Nanotec Electronics (ChangZhou) Co., Ltd.  
Building 1,18 QingJiang Road, New District  
ChangZhou City, JiangSu Province  
P.R. China 213022

Phone: +86 519 830 211 77  
Fax: +86 519 830 211 17  
E-mail: [info@cn.nanotec.com](mailto:info@cn.nanotec.com)