

## Gear units EMGA/EMGC

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## Key features

EMGA-...-P-...

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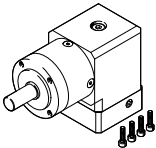


- Planetary gear, straight
- Gear ratio  $i = 3; 5; 8; 12; 20$
- Life-time lubrication
- Degree of protection: IP54

For servo motor EMME-AS, EMMS-AS, EMMT-AS  
For stepper motor EMMS-ST

EMGA-...-A-...

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- Right-angle gear unit
- Gear ratio  $i = 3; 5; 8; 12; 20$
- Life-time lubrication
- Degree of protection: IP54

For servo motor EMME-AS, EMMT-AS

EMGC-...-P-...-SEC

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- Planetary gear, straight
- Single-stage or two-stage
- Gear ratio  $i = 3; 4; 5; 7; 12; 16; 20; 25; 35; 40$
- Life-time lubrication
- Degree of protection: IP54

For integrated drive EMCA


EMGC-...-A-...-SEC

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- Right-angle gear unit
- Gear ratio  $i = 1$
- Life-time lubrication
- Degree of protection: IP54

For integrated drive EMCA

 **Note**

Other ratios and versions on request

## Type codes

<b>001</b>	Series	
<b>EMGA</b>	Gear unit	

<b>002</b>	Gear unit flange size	
<b>40</b>	40	
<b>60</b>	60	
<b>80</b>	80	
<b>120</b>	120	
<b>160</b>	160	

<b>003</b>	Gear unit type	
<b>P</b>	Planetary gear unit	
<b>A</b>	Right-angle gear unit	

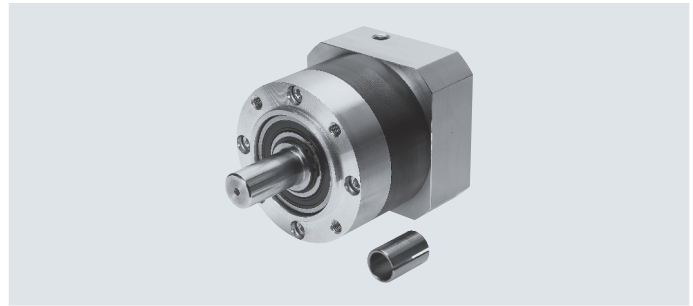
<b>004</b>	Gear ratio	
<b>G3</b>	3:1	
<b>G5</b>	5:1	
<b>G8</b>	8:1	
<b>G12</b>	12:1	
<b>G20</b>	20:1	

<b>005</b>	Interface	
	Without	
<b>EAS</b>	Eco AC synchronous	
<b>SAS</b>	AC synchronous	
<b>SST</b>	Stepper motor	

<b>006</b>	Flange size, motors [mm]	
<b>40</b>	40	
<b>42</b>	42	
<b>57</b>	57	
<b>60</b>	60	
<b>80</b>	80	
<b>87</b>	87	
<b>100</b>	100	
<b>140</b>	140	

## Data sheet

- For servo motor:  
EMME-AS, EMMT-AS, EMMS-AS
- For stepper motor:  
EMMS-ST



Technical data						
Gear unit size	[mm]	ø 40				
Gear ratio	[i]	3	5	8	12	20
Output interface		40G				
Motor interface		EAS-40, SST-42		EAS-40, SST-42		EAS-40
Gear unit type		Planetary gear				
		Single-stage			Two-stage	
Continuous output torque <sup>1)</sup>	[Nm]	11	14	6	20	
Max. output torque <sup>2)</sup>	[Nm]	17.6	22	10	32	
Max. drive speed	[rpm]	18000				
Torsional rigidity	[Nm/arcmin]	1		0.85	1	
Torsional backlash	[deg]	0.25		0.25	0.31	
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	0.031	0.019	0.015	0.025	0.018
Max. efficiency	[%]	98			96	
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90				
Degree of protection		IP54				
Product weight	[g]	350		350	450	
Note on materials		RoHS-compliant				

Technical data											
Gear unit size	[mm]	ø 60						ø 60			
Gear ratio	[i]	3	5	8	12	20	3	5	8	12	
Output interface		60H						60G			
Motor interface		EAS-60						SAS-55, SAS-70, SST-57		SST-57	
Gear unit type		Planetary gear									
		Single-stage			Two-stage			Single-stage		Two-stage	
Continuous output torque <sup>1)</sup>	[Nm]	28	40	18	44	22	18	44	22	18	
Max. output torque <sup>2)</sup>	[Nm]	45	64	29	70	35.2	29	70	35.2	29	
Max. drive speed	[rpm]	13000						13000			
Torsional rigidity	[Nm/arcmin]	2.3		2.4	2.8	2.3		2.4	2.8		
Torsional backlash	[deg]	0.17		0.17	0.2	0.17					
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	0.135	0.078	0.088	0.138	0.096	0.135	0.078	0.067	0.118	
Max. efficiency	[%]	98			97	96	98		97	96	
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90									
Degree of protection		IP54									
Product weight	[g]	900		900	1100	900		900	1100		
Note on materials		RoHS-compliant									

- 1) At the output shaft
- 2) The specifications refer to an output shaft speed of 100 rpm as well as operating mode S1 and a temperature of 30°C
- 3) In relation to the drive shaft
- 4) Note the temperature range of the motor

## Data sheet

Gear unit size	[mm]	ø 80							
Gear ratio	[i]	3	5	8	12	20			
Output interface		80G							
Motor interface		EAS-80, SAS-100, SST-87		EAS-80	SAS-100, SST-87	EAS-80	SAS-100, SST-87	EAS-80	SAS-100
Gear unit type		Planetary gear							
		Single-stage				Two-stage			
Continuous output torque <sup>1)</sup>	[Nm]	85	110	50	120				
Max. output torque <sup>2)</sup>	[Nm]	136	176	190	80	240	192	240	192
Max. drive speed	[rpm]	7000							
Torsional rigidity	[Nm/arcmin]	6		8.4		10.2		10.4	
Torsional backlash	[deg]	0.12		0.12		0.15			
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	0.77	0.45	0.37		0.589		0.406	
Max. efficiency	[%]	98		97		97		96	
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90							
Degree of protection		IP54							
Product weight	[g]	2000		2000		2500	2800	2500	2800
Note on materials		RoHS-compliant							

Gear unit size	[mm]	ø 120							
Gear ratio	[i]	3	5	8	12	20			
Output interface		120G							
Motor interface		SAS-100, SAS-140							
Gear unit type		Planetary gear							
		Single-stage				Two-stage			
Continuous output torque <sup>1)</sup>	[Nm]	115		195	120	260			
Max. output torque <sup>2)</sup>	[Nm]	184		312	192	416			
Max. drive speed	[rpm]	6500							
Torsional rigidity	[Nm/arcmin]	12				18		22	
Torsional backlash	[deg]	0.12				0.12		0.15	
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	2.63		1.53	1.43	2.22		1.57	
Max. efficiency	[%]	98				97		96	
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90							
Degree of protection		IP54							
Product weight	[g]	6000				6000		8000	
Note on materials		RoHS-compliant							

- 1) At the output shaft
- 2) The specifications refer to an output shaft speed of 100 rpm as well as operating mode S1 and a temperature of 30°C
- 3) In relation to the drive shaft
- 4) Note the temperature range of the motor

## Data sheet

Gear unit size	[mm]	ø 160	
Gear ratio	[i]	3	5
Output interface		160G	
Motor interface		SAS-140	
Gear unit type		Planetary gear	
		Single-stage	
Continuous output torque <sup>1)</sup>	[Nm]	400	450
Max. output torque <sup>2)</sup>	[Nm]	640	720
Max. drive speed	[rpm]	6500	
Torsional rigidity	[Nm/arcmin]	38	
Torsional backlash	[deg]	0.1	
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	12.14	6.07
Max. efficiency	[%]	98	
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90	
Degree of protection		IP54	
Product weight	[g]	18000	
Note on materials		RoHS-compliant	

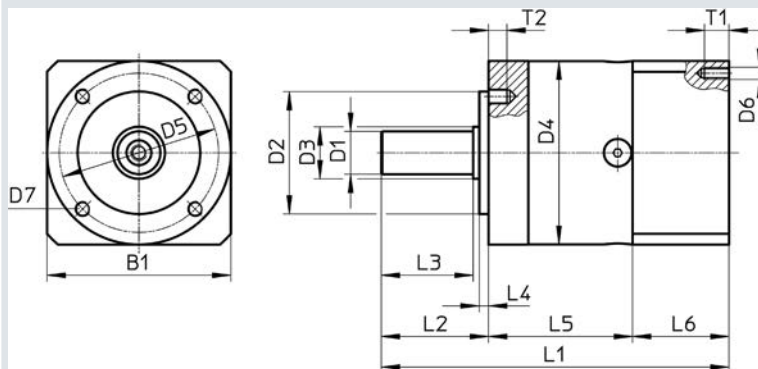
- 1) At the output shaft
- 2) The specifications refer to an output shaft speed of 100 rpm as well as operating mode S1 and a temperature of 30°C
- 3) In relation to the drive shaft
- 4) Note the temperature range of the motor

Data sheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

EMGA-... for servo motors EMME-AS, EMMT-AS



Size	Gear ratio	Interface		B1	D1 ∅ h7	D2 ∅ h7	D3 ∅	D4 ∅	D5 ∅	D6
		Output	Motor							
40	3, 5, 8	40G	EAS-40	40	10	26	12	40	34	M3
	12, 20									
60	3, 5, 8	60H	EAS-60	60	14	40	17	60	52	M4
	12, 20									
80	3, 5, 8	80G	EAS-80	80	20	60	25	80	70	M5
	12, 20									
	3, 5, 8	80G	SAS-100	100	20	60	25	80	70	M8
	12, 20									
120	3, 5, 8	120G	SAS-100	115	25	80	35	115	100	M8
	12, 20									

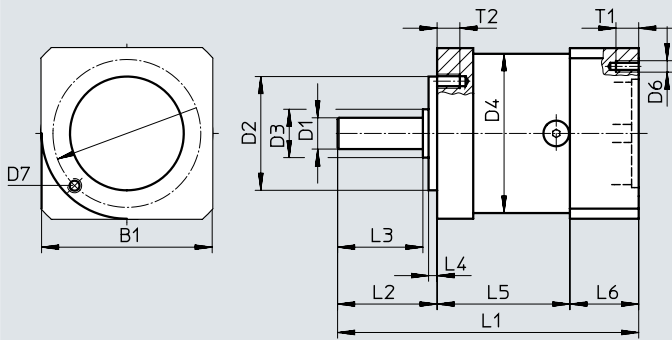
Size	Gear ratio	D7	L1	L2	L3 ±0.2	L4 ±0.2	L5	L6	T1 +2	T2 +2
	12, 20	106.5	52							
60	3, 5, 8	M5	113	35	30	3	47	31	10	8
			12, 20				125.5			
80	3, 5, 8	M6	138.5	40	36	3	60	38.5	12	10
			12, 20				156			
	3, 5, 8	M6	143.5	40	36	3	60	43.5	16	10
			12, 20				161			
120	3, 5, 8	M10	176.5	55	50	4	74	47.5	20	16
			12, 20				204			

Data sheet

Dimensions

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EMGA-... for servo motors EMMS-AS



Size	Gear ratio	Interface		B1	D1 ø h7	D2 ø h7	D3 ø	D4 ø	D5 ø	D6
		Output	Motor							
60	3, 5	60G	SAS-55	60	11	40	17	60	52	M5
	3, 5	60G	SAS-70	70	11	40	17	60	52	M5
80	3, 5	80G	SAS-100	100	20	60	25	80	70	M8
120	3, 5, 8	120G	SAS-100	115	25	80	35	115	100	M8
	12, 20									
	3, 5, 8	120G	SAS-140	140	25	80	35	115	100	M10
	12, 20									
160	3, 5	160G	SAS-140	140	40	130	55	160	145	M10

Size	Gear ratio	D7	L1	L2	L3 ±0.2	L4 ±0.2	L5	L6	T1	T2
	3, 5	M5	106	35	30	3	47	24	12	8
80	3, 5	M6	143.5	40	36	3	60	43.5	16	10
120	3, 5, 8	M10	176.5	55	50	4	74	47.5	20	16
	12, 20		204				101.5			
	3, 5, 8	M10	186.5	55	50	4	74	57.5	25	16
	12, 20		214				101.5			
160	3, 5	M12	255.5	87	80	5	104	64.5	25	20

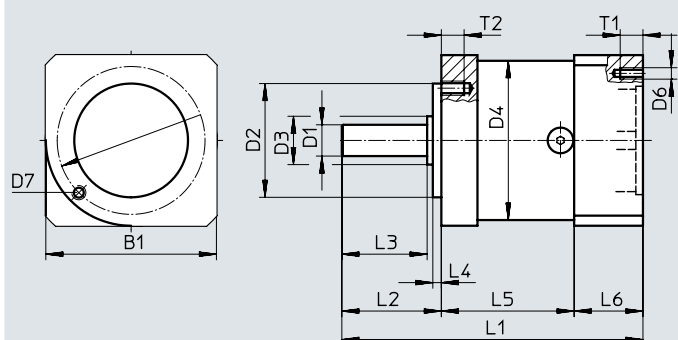


## Data sheet

### Dimensions

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EMGA-... for stepper motors EMMS-ST



Size	Gear ratio	Interface		B1	D1 ø h7	D2 ø h7	D3 ø	D4 ø	D5 ø	D6
		Output	Motor							
40	3, 5, 8	40G	SST-42	40	10	26	12	40	34	ø3.4
	12									
60	3, 5, 8	60G	SST-57	60	11	40	17	60	52	M4
	12									
80	3, 5, 8	80G	SST-87	90	20	60	25	80	70	M5
	12									

Size	Gear ratio	D7	L1	L2	L3	L4	L5	L6	T1	T2
			±1.5							
40	3, 5, 8	M4	92.5	26	23	2	39	27.5	5	6
	12		105.5				52			
60	3, 5, 8	M5	106	35	30	3	47	24	8	8
	12		118.5				59.5			
80	3, 5, 8	M6	135.5	40	36	3	60	35.5	12	10
	12		153				77.5			

Data sheet

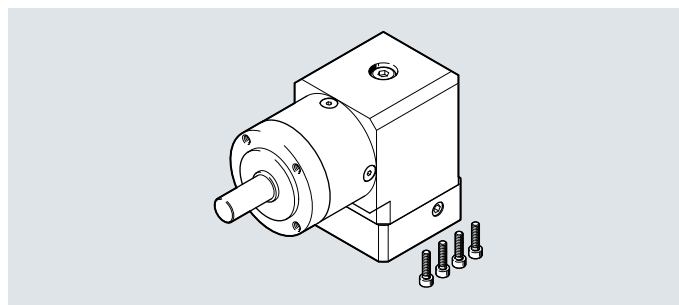
Ordering data	Gear ratio	Interface		Part no.	Type
		Output	Motor		
<b>For servo motor</b>					
EMME-AS-40	3	40G	EAS-40	★ 2297684	EMGA-40-P-G3-EAS-40
	5	40G	EAS-40	★ 2297685	EMGA-40-P-G5-EAS-40
	8	40G	EAS-40	8141729	EMGA-40-P-G8-EAS-40
	12	40G	EAS-40	8141730	EMGA-40-P-G12-EAS-40
	20	40G	EAS-40	8141731	EMGA-40-P-G20-EAS-40
EMME-AS-60, EMMT-AS-60	3	60H	EAS-60	★ 2297686	EMGA-60-P-G3-EAS-60
	5	60H	EAS-60	★ 2297687	EMGA-60-P-G5-EAS-60
	8	60H	EAS-60	8141735	EMGA-60-P-G8-EAS-60
	12	60H	EAS-60	8141736	EMGA-60-P-G12-EAS-60
	20	60H	EAS-60	8141737	EMGA-60-P-G20-EAS-60
EMME-AS-80, EMMT-AS-80	3	80G	EAS-80	★ 2297690	EMGA-80-P-G3-EAS-80
	5	80G	EAS-80	★ 2297691	EMGA-80-P-G5-EAS-80
	8	80G	EAS-80	8141741	EMGA-80-P-G8-EAS-80
	12	80G	EAS-80	8141742	EMGA-80-P-G12-EAS-80
	20	80G	EAS-80	8141743	EMGA-80-P-G20-EAS-80
For third-party motor (EMMS-AS-55)	3	60G	SAS-55	552188	EMGA-60-P-G3-SAS-55
	5	60G	SAS-55	552189	EMGA-60-P-G5-SAS-55
For third-party motor (EMMS-AS-70)	3	60G	SAS-70	552190	EMGA-60-P-G3-SAS-70
	5	60G	SAS-70	552191	EMGA-60-P-G5-SAS-70
EMME-AS-100, EMMT-AS-100	3	80G	SAS-100	★ 552194	EMGA-80-P-G3-SAS-100
	5	80G	SAS-100	★ 552195	EMGA-80-P-G5-SAS-100
	8	80G	SAS-100	8141750	EMGA-80-P-G8-SAS-100
	12	80G	SAS-100	8141751	EMGA-80-P-G12-SAS-100
	20	80G	SAS-100	8141752	EMGA-80-P-G20-SAS-100
	3	120G	SAS-100	★ 552196	EMGA-120-P-G3-SAS-100
	5	120G	SAS-100	★ 552197	EMGA-120-P-G5-SAS-100
	8	120G	SAS-100	8141753	EMGA-120-P-G8-SAS-100
	12	120G	SAS-100	8141754	EMGA-120-P-G12-SAS-100
	20	120G	SAS-100	8141755	EMGA-120-P-G20-SAS-100
EMMS-AS-140	3	120G	SAS-140	552198	EMGA-120-P-G3-SAS-140
	5	120G	SAS-140	552199	EMGA-120-P-G5-SAS-140
	8	120G	SAS-140	8141759	EMGA-120-P-G8-SAS-140
	12	120G	SAS-140	8141760	EMGA-120-P-G12-SAS-140
	20	120G	SAS-140	8141761	EMGA-120-P-G20-SAS-140
	3	160G	SAS-140	552200	EMGA-160-P-G3-SAS-140
	5	160G	SAS-140	552201	EMGA-160-P-G5-SAS-140
<b>For stepper motor</b>					
EMMS-ST-42	3	40G	SST-42	★ 549428	EMGA-40-P-G3-SST-42
	5	40G	SST-42	★ 549429	EMGA-40-P-G5-SST-42
	8	40G	SST-42	8141762	EMGA-40-P-G8-SST-42
	12	40G	SST-42	8141763	EMGA-40-P-G12-SST-42
EMMS-ST-57	3	60G	SST-57	★ 549430	EMGA-60-P-G3-SST-57
	5	60G	SST-57	★ 549431	EMGA-60-P-G5-SST-57
	8	60G	SST-57	8141764	EMGA-60-P-G8-SST-57
	12	60G	SST-57	8141765	EMGA-60-P-G12-SST-57
EMMS-ST-87	3	80G	SST-87	★ 549432	EMGA-80-P-G3-SST-87
	5	80G	SST-87	★ 549433	EMGA-80-P-G5-SST-87
	8	80G	SST-87	8141766	EMGA-80-P-G8-SST-87
	12	80G	SST-87	8141767	EMGA-80-P-G12-SST-87

Festo Core Range

- ★ Generally ready for shipping ex works in 24 hours
- ★ Generally ready for shipping ex works in 5 days

## Data sheet

- For servo motor:  
EMME-AS, EMMT-AS



Technical data		Ø 40					Ø 60				
Gear unit size	[mm]	Ø 40					Ø 60				
Gear ratio	[i]	3	5	8	12	20	3	5	8	12	20
Output interface		40G					60H				
Motor interface		40P					60P				
Gear unit type		Right-angle gear unit									
		Single-stage			Two-stage		Single-stage			Two-stage	
Continuous output torque <sup>1)</sup>	[Nm]	4.5	7.5	6	20	14	24	18	44		
Max. output torque <sup>2)</sup>	[Nm]	7	12	10	32	22	38	29	70		
Max. drive speed	[rpm]	18000					13000				
Torsional rigidity	[Nm/arcmin]	0.8		0.7	0.8	2	1.9	1.6	2		
Torsional backlash	[deg]	0.35			0.41	0.27			0.3		
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	0.049	0.035	0.032	0.048	0.035	0.394	0.257	0.243	0.391	0.256
Max. efficiency	[%]	95		92	94	92	95		93	94	92
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90									
Degree of protection		IP54									
Product weight	[g]	500			600	1700			1900		
Note on materials		RoHS-compliant									

Technical data		Ø 80				
Gear unit size	[mm]	Ø 80				
Gear ratio	[i]	3	5	8	12	20
Output interface		80G				
Motor interface		80P, 100A				
Gear unit type		Right-angle gear unit				
		Single-stage			Two-stage	
Continuous output torque <sup>1)</sup>	[Nm]	40	67	50	120	
Max. output torque <sup>2)</sup>	[Nm]	64	107	80	192	
Max. drive speed	[rpm]	3500	3600	3800	2650	3550
Torsional rigidity	[Nm/arcmin]	5	4.8	4.2	5	5.1
Torsional backlash	[deg]	0.22			0.22	0.25
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	1.409	1.017	0.934	1.379	1.013
Max. efficiency	[%]	95		94	94	93
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90				
Degree of protection		IP54				
Product weight	[g]	4300		4400	5000	
Note on materials		RoHS-compliant				

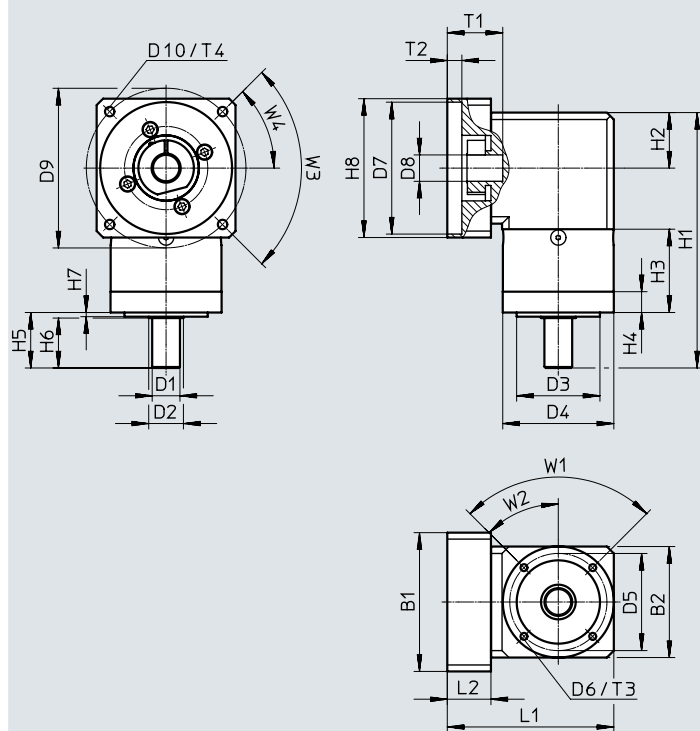
- 1) At the output shaft
- 2) The specifications refer to an output shaft speed of 100 rpm as well as operating mode S1 and a temperature of 30°C
- 3) In relation to the drive shaft
- 4) Note the temperature range of the motor

Data sheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

EMGA-... for servo motors EMME-AS, EMMT-AS



Size	Gear ratio	Interface		B1	B2	D1 ∅ h7	D2 ∅	D3 ∅ h7	D4 ∅
		Output	Motor						
40	3, 5	40G	40P	40	40	10	12	26	40 -0.3
	8								40
	12, 20								
60	3, 5	60H	60P	60	60	14	17	40	60 -0.3
	8								60
	12, 20								
80	3, 5	80G	80P	80	80	20	25	60	80 -0.4
	8								80
	12, 20								
80	3, 5	80G	100A	100	100	20	25	60	80 -0.4
	8								80
	12, 20								

Size	Gear ratio	D5 ∅	D6	D7 +0.05/+0.02	D8	D9	D10	H1	H2	
										40
	8	110								
	12, 20	123								
60	3, 5	52	M5	50	14	70	M4	146.8 ±1.5	30	
								8		147
								12, 20		159.5
80	3, 5	70	M6	70	19	90	M5	183.9 ±1.5	40	
								8		184
								12, 20		201.5
80	3, 5	70	M6	95	19	115	M6	183.9 ±1.5	40	
								8		184
								12, 20		201.5

## Data sheet

Size	Gear ratio	H3 ±0.2	H4	H5	H6	H7	H8	L1	L2
40	3, 5	39	10.2	26±0.6	23 ±0.2	2 ±0.2	40	67	19
	8	39		26	23	2			
	12, 20	52							
60	3, 5	46.8	12.7	35±0.8	30 ±0.2	3 ±0.2	60	92.5	23
	8	47		35	30	3			
	12, 20	59.5							
80	3, 5	59.9	15	40±0.8	36 ±0.2	3 ±0.2	80	115	26.5
	8	60		40	36	3			
	12, 20	77.5							
80	3, 5	59.9	15	40±0.8	36 ±0.2	3 ±0.2	100	120	31.5
	8	60		40	36	3			
	12, 20	77.5							

Size	Gear ratio	T1	T2	T3	T4	W1	W2	W3	W4		
40	3, 5	25+2/+0.5	3.5	6	8	90°	45°	90°	45°		
	8		3.4		7						
	12, 20										
60	3, 5	30+2.5/+0.5	4	8	10	90°	45°	90°	45°		
	8										
	12, 20										
80	3, 5	30+2.5/+0.5	4.4	10	12	90°	45°	90°	45°		
	8	35+2.5/+0.5									
	12, 20										
80	3, 5	40+2.5/+0.5	10.4	10	20	90°	45°	90°	45°		
	8		10.5								
	12, 20										

Data sheet

Ordering data	Gear ratio	Interface		Part no.	Type
		Output	Motor		
<b>For servo motor</b>					
EMME-AS-40	3	40G	40P	8085342	EMGA-40-A-G3-40P
	5	40G	40P	8085343	EMGA-40-A-G5-40P
	8	40G	40P	8141732	EMGA-40-A-G8-40P
	12	40G	40P	8141733	EMGA-40-A-G12-40P
	20	40G	40P	8141734	EMGA-40-A-G20-40P
EMME-AS-60, EMMT-AS-60	3	60H	60P	8085344	EMGA-60-A-G3-60P
	5	60H	60P	8085345	EMGA-60-A-G5-60P
	8	60H	60P	8141738	EMGA-60-A-G8-60P
	12	60H	60P	8141739	EMGA-60-A-G12-60P
	20	60H	60P	8141740	EMGA-60-A-G20-60P
EMME-AS-80, EMMT-AS-80	3	80G	80P	8085346	EMGA-80-A-G3-80P
	5	80G	80P	8085347	EMGA-80-A-G5-80P
	8	80G	80P	8141744	EMGA-80-A-G8-80P
	12	80G	80P	8141745	EMGA-80-A-G12-80P
	20	80G	80P	8141746	EMGA-80-A-G20-80P
EMME-AS-100, EMMT-AS-100, EMMS-AS-100	3	80G	100A	8085348	EMGA-80-A-G3-100A
	5	80G	100A	8085349	EMGA-80-A-G5-100A
	8	80G	100A	8141747	EMGA-80-A-G8-100A
	12	80G	100A	8141748	EMGA-80-A-G12-100A
	20	80G	100A	8141749	EMGA-80-A-G20-100A

## Type codes

001	Series
EMGC	Gear unit

002	Gear unit flange size
40	40
60	60
67	67

003	Gear unit characteristic
	Standard

004	Gear unit type
A	Right-angle gear unit
P	Planetary gear unit

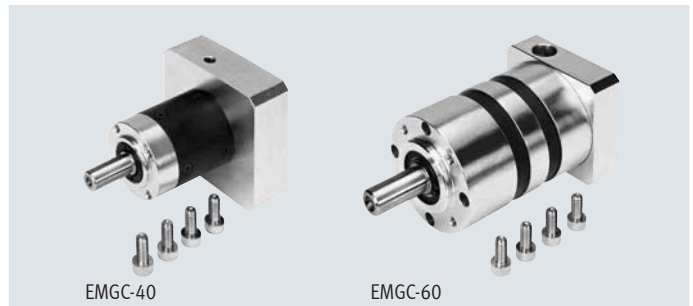
005	Gear ratio
G1	1:1
G3	3:1
G4	4:1
G5	5:1
G7	7:1
G10	10:1
G12	12:1
G16	16:1
G20	20:1
G25	25:1
G35	35:1
G40	40:1

006	Interface
SEC	EC motor

007	Flange size, motors
67	67

## Data sheet

- For integrated drive:  
EMCA-EC-67



Technical data											
Gear unit size	[mm]	ø 40									
Gear ratio	[i]	3	4	5	7	12	16	20	25	35	
Output interface		40G									
Motor interface		SEC-67									
Gear unit type		Planetary gear									
		Single-stage					Two-stage				
Continuous output torque <sup>1)</sup>	[Nm]	5	6.5	6.5	6.5	10	14	14	14	14	
Max. output torque <sup>2)</sup>	[Nm]	10	13	13	13	12.5	17.5	17.5	17.5	17.5	
Max. drive speed <sup>3)</sup>	[rpm]	6000									
Torsional rigidity	[Nm/arcmin]	0.85	0.85	0.85	0.65	0.85					
Max. torsional backlash	[deg]	0.5					0.67				
Mass moment of inertia <sup>4)</sup>	[kgcm <sup>2</sup> ]	0.06	0.04	0.04	0.04	0.04					
Max. efficiency	[%]	94					92				
Operating temperature <sup>5)</sup>	[°C]	-20 ... +90									
Degree of protection		IP54									
Product weight	[g]	450					550				
Note on materials		RoHS-compliant Contains paint-wetting impairment substances									

- 1) At the output shaft
- 2) In relation to a rotational speed of 3000 rpm and operating mode S1
- 3) The permissible operating temperature may not be exceeded
- 4) In relation to the drive shaft
- 5) Note the temperature range of the motor

Technical data													
Gear unit size	[mm]	ø 60											
Gear ratio	[i]	3	4	5	7	10	12	16	20	25	35	40	
Output interface		60H											
Motor interface		SEC-67											
Gear unit type		Planetary gear											
		Single-stage						Two-stage					
Continuous output torque <sup>1)</sup>	[Nm]	20	26	26	26	16	36	42	42	44	44	42	
Max. output torque <sup>2)</sup>	[Nm]	36	44	44	44	24	45	52	52	55	55	52	
Max. drive speed <sup>3)</sup>	[rpm]	6000											
Torsional rigidity	[Nm/arcmin]	2.4	2.4	2.4	1.7	1.3	2.4						
Max. torsional backlash	[deg]	0.5						0.67					
Mass moment of inertia <sup>4)</sup>	[kgcm <sup>2</sup> ]	0.4	0.34	0.32	0.3	0.29	0.34	0.34	0.32	0.32	0.3	0.29	
Max. efficiency	[%]	94						92					
Operating temperature <sup>5)</sup>	[°C]	-20 ... +90											
Degree of protection		IP54											
Product weight	[g]	900						1200					
Note on materials		RoHS-compliant Contains paint-wetting impairment substances											

- 1) At the output shaft
- 2) In relation to a rotational speed of 3000 rpm and operating mode S1
- 3) The permissible operating temperature may not be exceeded
- 4) In relation to the drive shaft
- 5) Note the temperature range of the motor

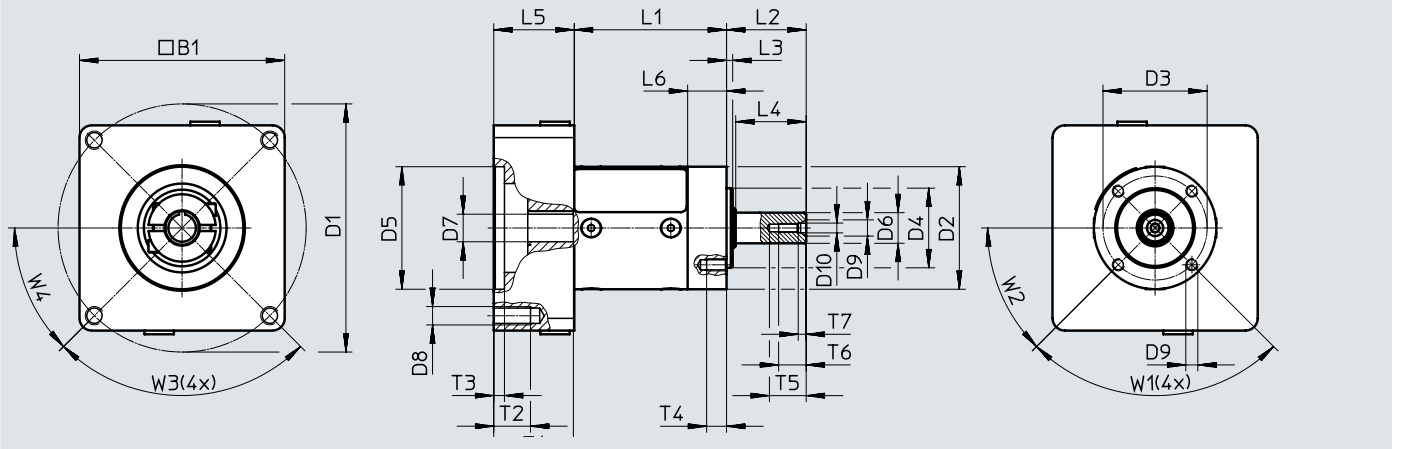


Data sheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

EMGC-40-P-... for integrated drives EMCA-EC-67



Type	Interface		B1	D1 ∅	D2 ∅ -0.1	D3 ∅ ±0.1	D4 ∅ h6	D5 ∅ G7	D6 ∅ h7	D7 ∅ G6
	Output	Motor								
EMGC-40-P-...-SEC-67	40G	SEC-67	67	81	40	34	26	40	10	9

Type	D8	D9	D10 ∅	D11 ∅	L2 -0.3	L3	L4 -0.1	L5	L6	T1 min.
EMGC-40-P-...-SEC-67	M6	M4	5.3	3.2	26	2	23	26.3	12.7	26

Type	T2 min.	T3 +0.5	T4 min.	T5 min.	T6 min.	T7	W1	W2	W3	W4
EMGC-40-P-...-SEC-67	13	3.5	6.5	12	9	2.6	90°	45°	90°	45°

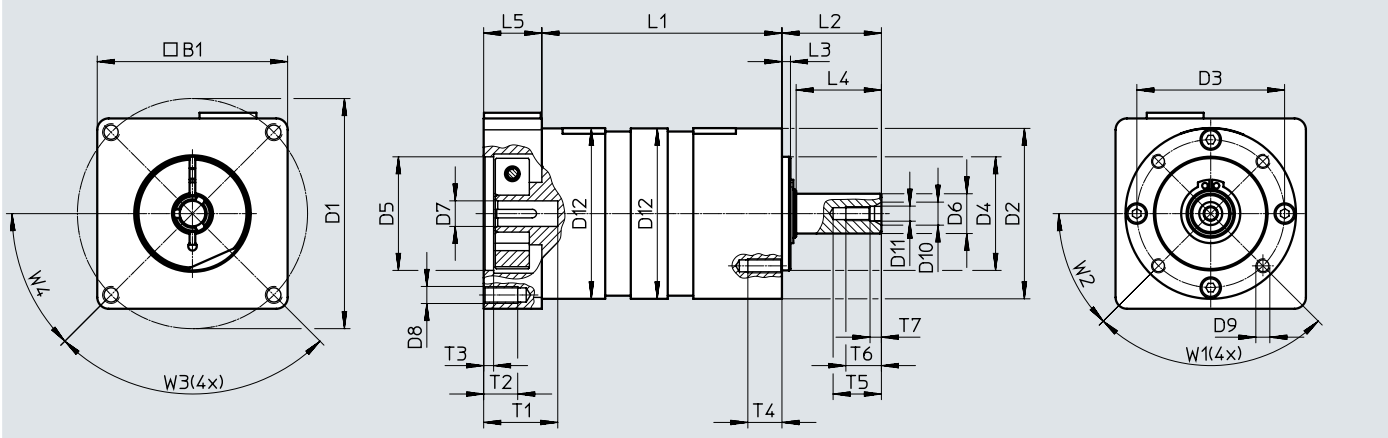
Type	L1 ±0.5
EMGC-40-P-G3-SEC-67	49.7
EMGC-40-P-G4-SEC-67	
EMGC-40-P-G5-SEC-67	
EMGC-40-P-G7-SEC-67	65.3
EMGC-40-P-G12-SEC-67	
EMGC-40-P-G16-SEC-67	
EMGC-40-P-G20-SEC-67	
EMGC-40-P-G25-SEC-67	
EMGC-40-P-G35-SEC-67	

Data sheet

Dimensions

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EMGC-60-P-... for integrated drives EMCA-EC-67



Type	Interface		B1	D1 ∅	D2 ∅ -0.1	D3	D4 ∅ h6	D5 ∅ G7	D6 ∅ h6
	Output	Motor							
EMGC-60-P-...-SEC-67	60H	SEC-67	67	81	60	52	40	40	14

Type	D7 ∅ G6	D8	D9	D10 ∅	D11 ∅	D12 ∅ +0.1	L2 -0.3	L3	L4 -0.1	L5
EMGC-60-P-...-SEC-67	9	M6	M5	8.1	5.3	60	35	3	30	20.5

Type	T1 min.	T2 min.	T3 +0.5	T4 min.	T5 min.	T6 min.	T7 +1	W1	W2	W3	W4
EMGC-60-P-...-SEC-67	26	13	3.5	12	17	12.5	4	90°	45°	90°	45°

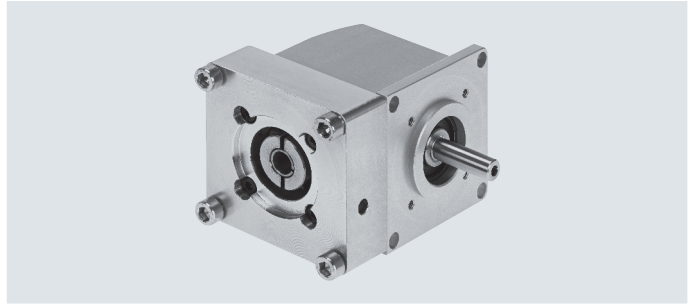
Type	L1 ±0.5
EMGC-60-P-G3-SEC-67	62.5
EMGC-60-P-G4-SEC-67	
EMGC-60-P-G5-SEC-67	
EMGC-60-P-G7-SEC-67	
EMGC-60-P-G10-SEC-67	84.5
EMGC-60-P-G12-SEC-67	
EMGC-60-P-G16-SEC-67	
EMGC-60-P-G20-SEC-67	
EMGC-60-P-G25-SEC-67	
EMGC-60-P-G35-SEC-67	
EMGC-60-P-G40-SEC-67	

## Data sheet

Ordering data For integrated drive	Gear ratio		Interface		Part no.	Type			
			Output	Motor					
EMCA-EC-67	3	Single-stage	40G	SEC-67	8000594	EMGC-40-P-G3-SEC-67			
	4				8000595	EMGC-40-P-G4-SEC-67			
	5				8000596	EMGC-40-P-G5-SEC-67			
	7				8000597	EMGC-40-P-G7-SEC-67			
	12	Two-stage	40G	SEC-67	8000598	EMGC-40-P-G12-SEC-67			
	16				8000599	EMGC-40-P-G16-SEC-67			
	20				8000600	EMGC-40-P-G20-SEC-67			
	25				8000601	EMGC-40-P-G25-SEC-67			
	35				8000602	EMGC-40-P-G35-SEC-67			
EMCA-EC-67	3	Single-stage	60H	SEC-67	8000612	EMGC-60-P-G3-SEC-67			
	4				8000613	EMGC-60-P-G4-SEC-67			
	5				8000614	EMGC-60-P-G5-SEC-67			
	7				8000615	EMGC-60-P-G7-SEC-67			
	10				8000616	EMGC-60-P-G10-SEC-67			
	12				Two-stage	60H	SEC-67	8000617	EMGC-60-P-G12-SEC-67
	16	8000618	EMGC-60-P-G16-SEC-67						
	20	8000619	EMGC-60-P-G20-SEC-67						
	25	8000620	EMGC-60-P-G25-SEC-67						
	35	8000621	EMGC-60-P-G35-SEC-67						
	40	8000622	EMGC-60-P-G40-SEC-67						

## Data sheet

- For integrated drive:  
EMCA-EC-67



Technical data		
Gear unit size	[mm]	67
Gear ratio	[i]	1
Output interface		67A
Motor interface		SEC-67
Gear unit type		Right-angle gear unit Single-stage
Continuous output torque <sup>1)</sup>	[Nm]	2
Max. output torque <sup>2)</sup>	[Nm]	2.1
Max. drive speed <sup>3)</sup>	[rpm]	4500
Torsional rigidity	[Nm/arcmin]	0.105
Max. torsional backlash	[deg]	0.67
Mass moment of inertia <sup>4)</sup>	[kgcm <sup>2</sup> ]	0.09
Max. efficiency	[%]	90
Operating temperature <sup>5)</sup>	[°C]	-20 ... +90
Degree of protection		IP54
Product weight	[g]	930
Note on materials		RoHS-compliant Contains paint-wetting impairment substances

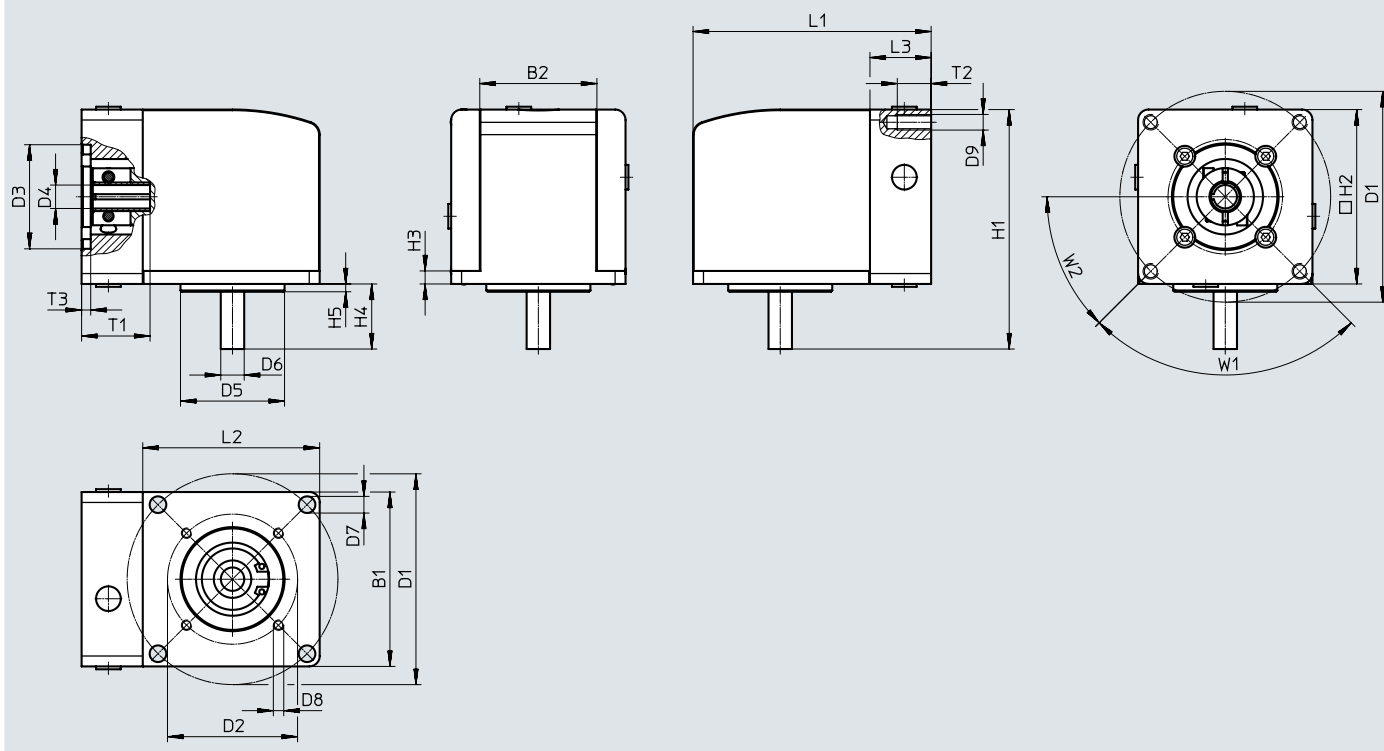
- 1) At the output shaft
- 2) In relation to a rotational speed of 3000 rpm and operating mode S1
- 3) The permissible operating temperature may not be exceeded
- 4) In relation to the drive shaft
- 5) Note the temperature range of the motor

Data sheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

EMGC-67... for integrated drives EMCA-EC-67



Type	Interface		B1	B2	D1 ∅	D2 ∅	D3 ∅	D4 ∅
	Output	Motor						
EMGC-67-A-G1-SEC-67	67A	SEC-67	67	45	81 ±0.1	50 ±0.1	40 G7	9 G6

Type	D5 ∅	D6 ∅	D7 ∅	D8	D9	H1	H2	H3	H4
EMGC-67-A-G1-SEC-67	40 h7	9 h7	6.4 H12	M4	M6	92	67	5 ±0.1	25 -0.1

Type	H5	L1	L2	L3	T1	T2	T3	W1	W2
EMGC-67-A-G1-SEC-67	3	91.5	68	23.5	26.3	13	3.5 +0.2	90°	45°

Ordering data

For integrated drive	Gear ratio	Interface		Part no.	Type
		Output	Motor		
EMCA-EC-67	1	67A	SEC-67	2321480	EMGC-67-A-G1-SEC-67

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