

RGP40, RGP60

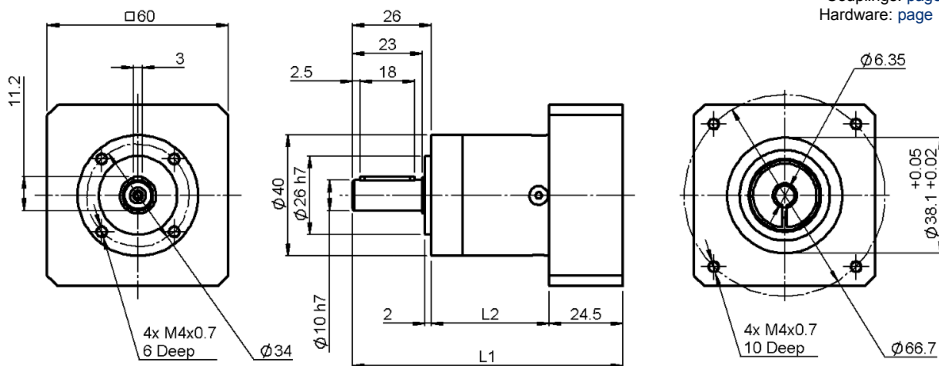
- standard backlash (RGP40 from <math><22'</math>)
(RGP60 from <math><18'</math>)
- high output torque
- novel motor clamp system
- high efficiency (up to 96%)
- ratios $i=3, \dots, 512$
- low noise
- high quality
- any mounting position
- easy motor mounting
- lifetime lubrication
- direction of rotation equidirectional

- 1 Output shaft**
High strength one piece planet carrier and output shaft
- 2 Output shaft bearing**
Deep groove ball bearings with contact seals
- 3 Planet gear**
Precision zero helix angle gear with optimised profile modifications and crowning, case hardened and hard finished by honing
- 4 Housing with integrated ring gear**
Ring gear case hardened for high load capacity, minimum wear, consistent backlash
- 5 Sun gear**
Precision machined optimised gear profile, case hardened and honed for higher load capacity, low noise, minimum wear and consistent backlash
- 6 Bearing for sun gear**
High speed, deep groove ball bearings eliminating thrust loads from thermal expansion, whilst providing exact sun gear position for easy mounting
- 7 Motor adaptor plate**
Allows matching up of the gear head with NEMA 17 and 23 motors, made from aluminium for enhanced thermal conductivity (other adaptors and motors on request)
- 8 Clamping ring**
Balanced ring suitable for high rpm, made from steel to allow greater clamping forces for safe torque transfer
- 9 Clamping screw**
High strength steel with special low pitch thread to generate a greater clamping force
- 10 Motor shaft clamp**
Multiple closed slot precision clamping system for improved reliability
- 11 Assembly hole**
Access hole for the clamping screw



All dimensions in mm

Associated Products
 Reliance Cool Muscles: page 2-2
 Couplings: page 8-1
 Hardware: page 13-1



Part number selection table

Example Part No:- **RG40 - 60 - NEMA23**

Basic Part Number	Ratio	Stage	L1 mm	L2 mm	Output Torque		Inertia kgcm ²	Efficiency ⁽⁶⁾ with full load %
					Nominal Nm ⁽²⁾	Max Nm		
RG40	3	1	89.5	39	11	17.6	0.031	98
	4				15	24	0.022	98
	5				14	22	0.019	98
	7				8.5	13.6	0.018	97
	8				6	10	0.017	96
	10				5	8	0.016	95
RG40	9	2	102.5	52	16.5	26	0.030	97
	12				20	32	0.029	96
	15				18	29	0.023	96
	16				20	32	0.022	96
	20				20	32	0.019	96
	25				18	29	0.019	95
	32				20	32	0.017	95
	40				18	29	0.016	94
RG40	64	3	115	64.5	7.5	12	0.016	86
	60				20	32	0.029	92
	80				20	32	0.019	90
	100				20	32	0.019	89
	120				18	29	0.029	87
	160				20	32	0.016	86
	200				18	29	0.016	82
	256				20	32	0.016	81
	320				18	29	0.016	76
512	7.5	12	0.016	48				

Technical information

Specification	Unit	RGP40	Stage
Backlash	arcmin	<15	1
		<19	2
		<22	3
Torsional stiffness	Nm/arcmin	1.0	1
		1.1	2
		1.0	3
Weight	kg	0.35	1
		0.45	2
		0.55	3
Lifetime⁽³⁾	h	30,000	
Radial load for 20,000h⁽⁴⁾	N	200	
Axial load for 20,000h⁽⁴⁾	N	200	
Running noise⁽⁵⁾	dB(A)	58	
Maximum input speed	rpm	18,000	
Input speed at >50% torque		5,000	
Operating temperature	max °C	90	
	min °C	-25	
Motor mounting clamp torque	M2.5	Nm	2
Lubrication		Greased for life	
Degree of protection		IP54	

⁽¹⁾ Gearboxes for use with NEMA motors are supplied with a motor output shaft bush

⁽²⁾ Emergency stop torque equals twice nominal torque, maximum 500 times

⁽³⁾ Based on nominal torque and output shaft speed 100 rpm

⁽⁴⁾ Based on output shaft speed 100 rpm, centrally positioned along shaft

⁽⁵⁾ Distance 1 metre, idle running, input speed 3,000 rpm, ratio 5

⁽⁶⁾ Degree of efficiency at nominal output torque, reference temperature 70°C at 1,000 rpm

? Technical support

- Product overview - see [page 3-3](#)
- Technical information - see [pages T3-1 to T3-3](#)
- Section view - see [page 3-4](#)
- For detailed duty cycle and life calculation, please contact us
- Gearbox complements the Reliance Cool Muscle servo system - see [page 2-2](#)
- For system design information when using the RGP40 series with Reliance Cool Muscle, please contact us

i Features and options

- Gearbox may be used in any mounting orientation
- Housing material: Steel - black
- Input and output flanges material: Aluminium - untreated
- Optional smooth output shaft if required
- Other motors may be utilised, please contact us
- Available as a right angle gearbox, please contact us

