

Gear Grip™



 **GUARDIAN COUPLINGS™**
A REGAL REXNORD BRAND

GUARDIAN COUPLINGS GEAR GRIP APPLICATIONS

The Gear Grip product is a general use coupling best suited for applications with a large degree of misalignment and is rated up to 50 HP. The Gear Grip coupling is a three-piece highly flexible design which includes two hubs and an elastic sleeve. Guardian offers three different sleeve materials including neoprene, urethane, and reinforced neoprene. Depending on the series, the hubs are typically offered in zinc or sintered steel.



REFERENCE

HUB REF:

- EZ: Zinc Die Cast End Fitting
- ES: Sintered Steel End Fitting

SLEEVE REF:

- SM: Molded Rubber (92 Sh A)
250° F Max
- SR: Neoprene (85 Sh. A)
250° F Max
- SU: Urethane (95 A)
175° F Max
- SF: Reinforced Neoprene (85 A)
250° F Max



FEATURES & ADVANTAGES

ALIGNMENT

By-eye alignment eliminates precise measurement. This allows for a reduced assembly time and requires no special installation tools. Ideally, drive shafts should be aligned to minimize vibration and wear on the coupling and bearings. If excessive misalignment is unavoidable, the Gear Grip offers up to .090" parallel misalignment and 7.5 degrees of angular misalignment.



TORSIONAL DAMPENING

Neoprene and urethane rubber sleeve compounds provide excellent torsional vibration dampening. The load is distributed evenly over a wide splined contact area. This minimizes rubber deformation and wear while providing minimum backlash and wind-up. The Gear Grip coupling handles the shock, cycling loads, and vibration that produce extreme wear in other style of couplings.

IN-SHEAR DESIGN

The in-shear design allows the coupling to act as a mechanical fuse in the event of an overload condition. This feature can provide protection to the expensive drive system. If the coupling were to fail, only the coupling sleeve would need to be replaced.

ADJUSTABLE LENGTH

The coupling length can be adjusted to meet the application requirements. This is obtained by using a longer sleeve. Please note, the torque may be lower for longer sleeve lengths, and the end-user should contact Guardian for proper specification. A wooden dowel or insert may be used for longer lengths to prevent the collapse of the coupling sleeve under the loading. Increased length may decrease the torque capacity, but it will improve the misalignment allowance and dampening.

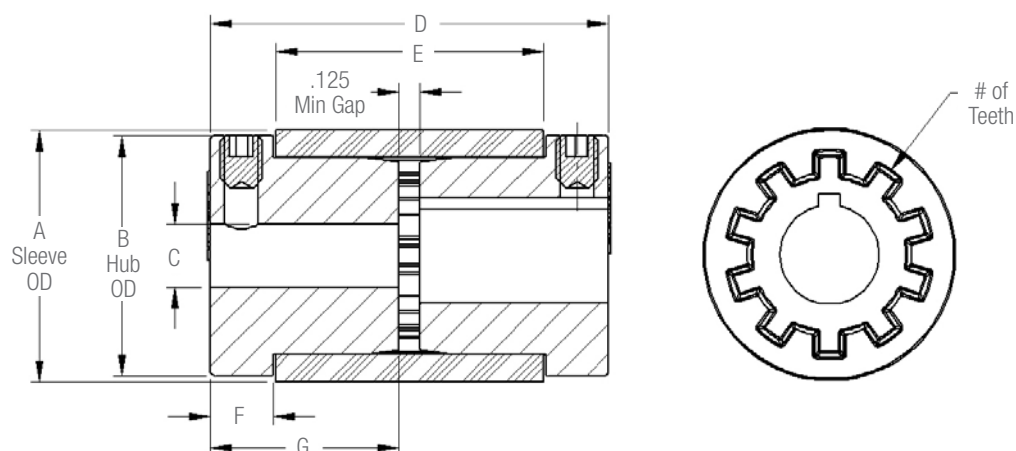
ENVIRONMENT

This lightweight and compact coupling is not affected by moisture, dirt, or abrasives. The non-corrosive metal ends and rubber provide a long service life that does not require lubrication or maintenance.

ELECTRICAL ISOLATION

No possibility of metal-to-metal contact under severe overload, wear, or coupling failure.

COUPLING DIMENSIONS



Assembly Series	Sleeve Series	Hub Series	A	B	C (Bore)			D	E	F	G	# Of Teeth
					Min	Max w/ Kw/y	Max w/o Kw/y					
11PG	11SR	10 EZ	0.800	0.700	0.125	0.375	0.375	1.000	0.560	0.220	0.500	8
12PG	12SU	10 EZ	0.800	0.700	0.125	0.375	0.375	1.000	0.560	0.220	0.500	8
18PG	18SR	18 EZ	1.200	1.150	0.250	0.500	0.625	1.500	0.850	0.330	0.720	8
19PG	19SU	18 EZ	1.114	1.150	0.250	0.500	0.625	1.500	0.850	0.330	0.720	8
21PG	21SR	20 EZ	1.200	1.150	0.313	0.500	0.625	2.250	1.590	0.330	1.090	8
24PG	24SU	20 EZ	1.114	1.150	0.313	0.500	0.625	2.250	1.590	0.330	1.090	8
31PG	31SR	30 EZ	1.400	1.450	0.375	0.625	0.750	2.375	1.590	0.380	1.140	10
32PG	32SU	30 EZ	1.400	1.450	0.375	0.625	0.750	2.375	1.590	0.380	1.140	10
33PG	33SF	30 EZ	1.560	1.450	0.375	0.625	0.750	2.375	1.590	0.380	1.140	10
41PG	41SR	40 EZ	1.840	1.630	0.375	0.875	1.063	2.375	1.590	0.380	1.140	12
41PGS		40 ES	1.820	1.630	0.375	0.875	1.063	2.375	1.590	0.380	1.140	12
42PG	42SU	40 EZ	1.800	1.630	0.375	0.875	1.063	2.375	1.590	0.380	1.140	12
42PGS		40 ES	1.840	1.630	0.375	0.875	1.063	2.375	1.590	0.380	1.140	12
43PG	43SF	40 EZ	1.820	1.630	0.375	0.875	1.063	2.375	1.590	0.380	1.140	12
43PGS		40 ES	1.800	1.630	0.375	0.875	1.063	2.375	1.590	0.380	1.140	12
54PG	54SU	50 EZ	2.370	2.060	0.500	1.188	1.375	2.500	1.590	0.430	1.190	12
56PG	56SF	50 EZ	2.250	2.060	0.500	1.188	1.375	2.500	1.590	0.430	1.190	12
64PG	64SU	60 ES	3.050	2.760	0.500	1.375	1.875	2.750	1.590	0.560	1.300	12
66PG	64SF	60 ES	2.970	2.760	0.500	1.375	1.875	2.750	1.590	0.560	1.300	12
74PG	74SU	70 EZ	3.500	3.250	0.750	1.625	2.000	3.250	2.125	0.560	1.540	12
74PGS		70 ES	3.500	3.250	0.750	1.625	2.000	3.250	2.125	0.560	1.540	12
76PG	76SF	70 EZ	3.500	3.250	0.750	1.625	2.000	3.250	2.125	0.560	1.540	12
76PGS		70 ES	3.500	3.250	0.750	1.625	2.000	3.250	2.125	0.560	1.540	12
84PG	84SU	80 ES	4.050	3.750	0.875	1.875	2.500	3.440	2.125	0.660	1.660	12
86PG	86SF	80 ES	4.050	3.750	0.875	1.875	2.500	3.440	2.125	0.660	1.660	12

- 1) Dimensions include a minimum clearance between the end fittings of .125".
- 2) Allow a .063" space between end fitting flanges and rubber sleeve for shaft float.
- 3) Sleeve length and outside diameter may vary by +.030".



TECHNICAL SPECIFICATIONS

Assembly	Torque (In-Lbs) *		Speed (RPM)	HP @ 1750 RPM*	Misalignment		Stiffness (In-Lbs/Rad)
	Nominal	MAX	MAX		Parallel (Inches)	Angular (Degree)	
11PG	4	18	25,000	0.11	0.016	7.5 MAX	28
12PG	13	55	25,000	0.36	0.016	7.5 MAX	57
18PG	16	65	16,800	0.44	0.040	7.5 MAX	124
19PG	40	160	16,800	1.11	0.040	7.5 MAX	183
21PG	30	110	16,500	0.83	0.040	7.5 MAX	107
24PG	50	200	16,500	1.39	0.040	7.5 MAX	115
31PG	45	175	15,500	1.25	0.040	7.5 MAX	270
32PG	60	250	15,500	1.67	0.040	7.5 MAX	134
33PG	72	400	15,500	2.00	0.040	7.5 MAX	225
41PG	108	440	15,000	3.00	0.040	7.5 MAX	630
41PGS	108	440	15,000	3.00	0.040	7.5 MAX	630
42PG	140	580	15,000	3.89	0.040	7.5 MAX	330
42PGS	140	580	15,000	3.89	0.040	7.5 MAX	330
43PG	185	738	15,000	5.14	0.040	7.5 MAX	423
43PGS	185	738	15,000	5.14	0.040	7.5 MAX	423
54PG	200	800	10,000	5.55	0.040	7.5 MAX	1,530
56PG	270	980	10,000	7.50	0.040	7.5 MAX	561
64PG	270	1080	8,000	7.50	0.080	7.5 MAX	3,095
66PG	360	1440	8,000	10.00	0.080	7.5 MAX	3,438
74PG	500	2000	5,600	13.88	0.090	7.5 MAX	9,000
74PGS	500	2000	5,600	13.88	0.090	7.5 MAX	9,000
76PG	1080	4700	5,600	29.99	0.090	7.5 MAX	3,367
76PGS	1080	4700	5,600	29.99	0.090	7.5 MAX	3,367
84PG	1375	5500	5,600	38.18	0.090	7.5 MAX	13,900
86PG	1800	7200	5,600	49.98	0.090	7.5 MAX	10,115

* Torque and horsepower ratings are based on normal duty cycle at the standard or minimum sleeve length.

NORMAL DUTY CYCLE

Normal torque motors and multicylinder engines operating less than 10 hrs/day with infrequent starts and stops. No heavy, pulsating loads or clutches to add shock to the drive train.

HP	3500 RPM	1750 RPM	1160 RPM	860 RPM
1/2	11	11	11	12
1/8	11	11	12	12
1/6	11	12	12	12
1/4	11	12	12	18
1/3	12	12	18	19
1/2	18	19	19	19
3/4	18	19	19	24
1	19	19	24	31
1-1/2	21	24	33	41
2	24	33	41	54
3	31	41	54	54
5	41	54	56	64
7-1/2	54	56	66	66
10	54	66	66	76
15	56	66	76	76
20	66	76	86	86
25	66	76	86	86
30	66	76	86	
35	76	76	86	
40	76	86		
50	76	86		

SEVERE DUTY CYCLE

High torque motors and single cylinder engines operating for more than 10 hrs/day. Frequent starts and stops, heavy pulsating loads or clutches which exceed the normal torque loads.

HP	3500 RPM	1750 RPM	1160 RPM	860 RPM
1/2	11	11	11	12
1/8	12	12	12	18
1/6	12	12	18	19
1/4	18	19	24	24
1/3	18	21	24	24
1/2	19	24	24	31
3/4	24	24	31	33
1	24	31	33	43
1-1/2	31	33	43	54
2	31	43	54	54
3	33	54	54	56
5	54	56	64	66
7-1/2	64	64	76	76
10	64	66	76	76
15	66	76	76	86
20	76	86	86	
25	86	86		
30	86	86		
35	86	86		
40	76			

CUSTOM / SPECIALS

Guardian welcomes custom engineered designs. As part of our standard product offering we manufacture both inch and metric size bores with precision tolerances. Guardian strictly follows ANSI/AGMA 9002-B04 for inch bores and keyways. Metric bores conform to H7 tolerances and Js9 for the metric keyways. We manufacture a variety of custom solutions such as extended length assemblies, custom mounting, tapered bores, and various clamping options.

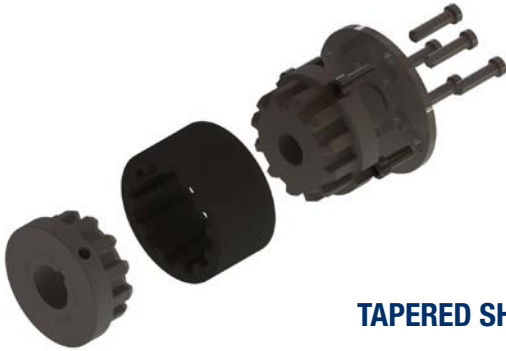
EXTENDED LENGTH ASSEMBLIES

Often times standard length couplings don't fit the application and longer lengths are required. The Gear Grip has the ability to work around the application. This coupling is able to extend up to 13.50". This versatile design can be fitted with an internal support to prevent the center from collapsing under load, while handling the power requirement and providing the necessary misalignment.



CUSTOM MOUNTING

Applications that require a custom mounting such as a pulley flywheel or clutch, the Gear Grip has a solution. Guardian can design and fabricate custom flanges and hubs to fit a variety of mounting systems. These can easily be adapted to the Gear Grip products.



TAPERED SHAFTS

Tapered bores can be machined with a straight or tapered keyway. It can also be fitted with a counterbore at the end of the hub for a locknut and washer if necessary.

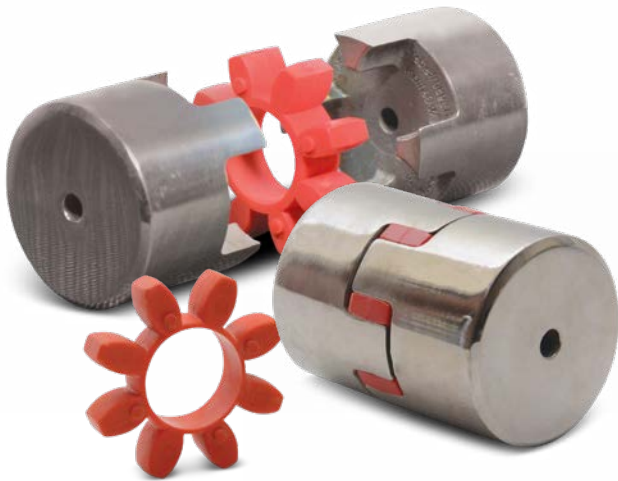


CROSS-CLAMPED HUBS

Cross-clamped hubs can be offered for better clamping force to the shaft. In many cases vibration can lead to set screws backing out. Using Loctite and applying the proper seating torque, this feature can eliminate this common issue. There are several other clamping designs available.



OTHER GUARDIAN PRODUCTS



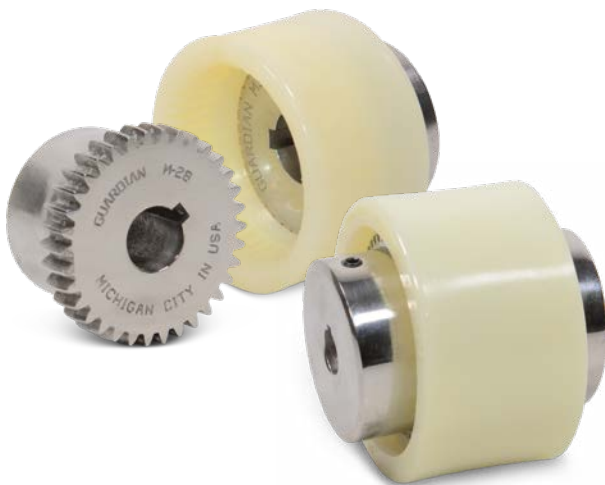
Curved Jaw Coupling

- Suitable for high torque applications
- Variable durometer urethane elements
- Stainless steel hubs available
- Great misalignment in the torsional, axial, radial and angular directions



Straight Jaw Coupling

- Perfectly interchangeable with other domestic straight jaw couplings
- Spiders available in a variety of durometers and material types
- Black phosphate treated for superior corrosion resistance
- Change in place spider element available



M-Style Coupling

- Double crowned tooth provides great parallel and angular misalignment
- Optional I-Style provides excellent axial travel for demag motors (up to .500")
- Different sleeve material options for high temp/high torque applications



ABOUT GUARDIAN COUPLINGS

For more than 70 years, Guardian has been designing and manufacturing world-class couplings and other power transmission components. Utilizing advanced manufacturing technologies and processes, Guardian provides highly-reliable coupling and component solutions to meet the most challenging industrial application requirements.

Guardian provides a wide range of standard and custom products including flywheel couplings, hydraulic pump mounts, bearing supported stub shafts, flexible shaft-to-shaft couplings, motion control couplings as well as compression pipe couplings.

Durable Guardian products are utilized in key industries including mobile hydraulics, farm & ag, tree care, concrete, food & beverage, material handling, automation, power generation, and oil & gas on applications such as skid steers, aerial lifts, harvesters, wood chippers, concrete pumps, dewatering pumps, baggage handlers, conveyors, robotics, compressors, and generator sets.



REGAL REXNORD COUPLINGS

Regal Rexnord Couplings offers the largest selection of industrial couplings available from a single source...worldwide. For over 150 years, TB Wood's, Ameridrives, Bibby Turboflex, Lamiflex, Guardian and Huco, the industry-leading brands of Regal Rexnord Couplings have been providing innovative coupling solutions to meet the requirements for a broad variety of drivetrain applications spanning many industries including energy, metals, mining, oil & gas, and food processing. Highly-engineered Regal Rexnord coupling products represent the latest in coupling technology, featuring superior design and exceptional quality to ensure long-lasting performance in all types of environments.

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