



COUPLINGS & UNIVERSAL JOINTS
BY TIMKEN

Grid Couplings

Grid Interchange Guide



Fully Interchangeable with the industry standard



With readily available full assemblies and interchangeable components, Lovejoy's line of grid couplings gives you the ability to avoid lengthy shutdowns. Our grid couplings combine high-torque, high-horsepower operation with vibration, shock and misalignment capabilities not provided by other metallic coupling types. Ten standard model sizes feature an advanced design with high-tensile alloy grids that reduce vibration by as much as 30 percent. Our larger grid couplings meet the demands of tough applications like crushers, conveyors, and pulverizers commonly found in aggregate industries.

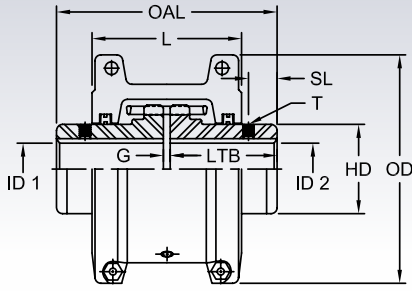


- Interchangeable with industry standard hubs and grid springs – all the way up to size 1200!
- Clearance fit hubs available in sizes 1020-1090 have two set screws standard
- The tooth profile of the grid hub is shot blasted for added strength and longer life
- Puller holes are standard for interference fit hubs, sizes 1100 through 1200
- Cover fasteners are available in either metric or imperial sizes
- Grease packets are included with cover sets through size 1090
- Standard hubs accommodating Taper-Lock® bushings are standard

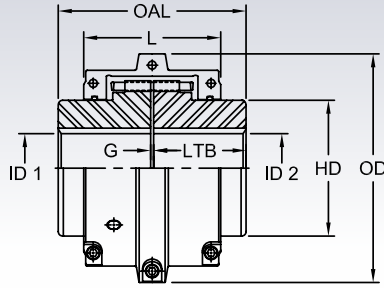
Lovejoy Size	Horizontal – Split Cover				Vertical – Split Cover			
	Falk® Steelflex®	Morse/Browning® Grid-Flex®	Dodge® Grid-Lign®	Kop-Flex® Kop-Grid®	Falk® Steelflex®	Morse/Browning® Grid-Flex®	Dodge® Grid-Lign®	Kop-Flex® Kop-Grid®
1020	1020T10	GF2020H	1020T10	1020H	1020T20	GF2020V	1020T20	1020V
1030	1030T10	GF2030H	1030T10	1030H	1030T20	GF2030V	1030T20	1030V
1040	1040T10	GF2040H	1040T10	1040H	1040T20	GF2040V	1040T20	1040V
1050	1050T10	GF2050H	1050T10	1050H	1050T20	GF2050V	1050T20	1050V
1060	1060T10	GF2060H	1060T10	1060H	1060T20	GF2060V	1060T20	1060V
1070	1070T10	GF2070H	1070T10	1070H	1070T20	GF2070V	1070T20	1070V
1080	1080T10	GF2080H	1080T10	1080H	1080T20	GF2080V	1080T20	1080V
1090	1090T10	GF2090H	1090T10	1090H	1090T20	GF2090V	1090T20	1090V
1100	1100T10	GF2100H	1100T10	1100H	1100T20	GF2100V	1100T20	1100V
1110	1110T10	GF2110H	1110T10	1110H	1110T20	GF2110V	1110T20	1110V
1120	1120T10	GF2120H	1120T10	1120H	1120T20	GF2120V	1120T20	1120V
1130	1130T10	GF2130H	1130T10	1130H	1130T20	GF2130V	1130T20	1130V
1140	1140T10	GF2140H	1140T10	1140H	1140T20	GF2140V	1140T20	1140V
1150	1150T10							
1160	1160T10							
1170	1170T10							
1180	1180T10							
1190	1190T10							
1200	1200T10							

Larger sizes give you greater options

Grid Coupling with Horizontal Style Cover

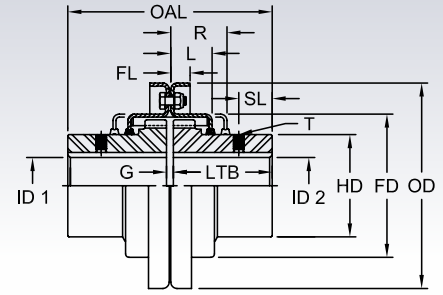


Sizes 1020 - 1140



Sizes 1150 - 1200

Grid Coupling with Vertical Style Cover



Sizes 1020 - 1090

Horizontal Style

Size	Maximum Torque in-lbs	Bore		Outer Dia OD	Overall Length OAL	Gap G	Length Thru Bore LTB	Hub Dia HD	Length L	Set Screw		Weight lbs Solid	Moment of Inertia WR ² lb-in ² Solid
		Min	Max							Location SL	Size T		
1020	422	0.500	1.125	4.00	3.88	0.13	1.88	1.56	2.63	0.50	#8-32	4.2	4.830
1030	1,200	0.500	1.375	4.38	3.88	0.13	1.88	1.94	2.69	0.31	#8-32	5.7	7.610
1040	2,000	0.500	1.625	4.63	4.13	0.13	2.00	2.25	2.75	0.44	#10-24	7.4	11.190
1050	3,500	0.500	1.875	5.44	4.88	0.13	2.38	2.63	3.13	0.62	#10-24	12.0	24.850
1060	5,500	0.750	2.125	5.94	5.13	0.13	2.50	3.00	3.63	0.44	#10-24	16.0	40.660
1070	8,000	0.750	2.500	6.38	6.13	0.13	3.00	3.44	3.75	0.88	1/4-20	23.0	63.180
1080	16,500	1.000	3.000	7.63	7.13	0.13	3.50	4.13	4.56	0.94	1/4-20	39.0	154.000
1090	30,000	1.000	3.500	8.38	7.88	0.13	3.88	4.88	4.81	1.03	5/16-18	56.0	269.000
1100	50,500	1.625	4.000	9.88	9.69	0.19	4.75	5.59	6.13			93.0	609.000
1110	75,000	1.625	4.500	10.63	10.19	0.19	5.00	6.31	6.36			120.0	923.000
1120	110,000	2.375	5.000	12.13	12.00	0.25	5.88	7.06	7.55			179.0	1,755.000
1130	160,000	2.625	6.000	13.63	13.00	0.25	6.38	8.56	7.69			266.0	3,375.000
1140	230,000	2.625	7.000	15.13	14.75	0.25	7.25	10.00	7.92			392.0	6,306.000
1150	320,000	3.000	8.000	17.84	14.64	0.25	7.20	10.60	8.42			523.0	
1160	457,000	4.188	9.000	19.74	15.83	0.25	7.80	12.00	10.43			720.0	
1170	600,000	4.188	10.000	22.30	17.24	0.25	8.50	14.00	11.85			1,022.5	
1180	830,000	5.125	11.000	24.80	19.04	0.25	9.40	15.50	12.24			1,341.7	
1190	1,100,000	6.000	12.000	26.60	20.64	0.25	10.20	17.20	12.80			1,710.0	
1200	1,500,000	6.000	13.000	29.80	22.24	0.25	11.00	19.60	14.00			2,331.0	

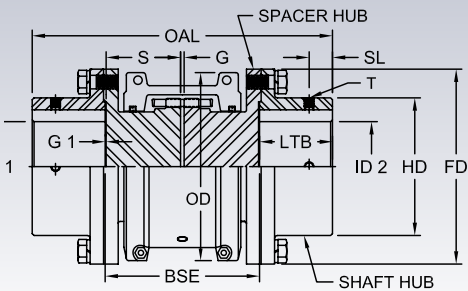
Notes: ■ Maximum bores are less than shown above when an Interference Fit and Set Screw are required, refer to Lovejoy Application Engineering. Sizes 1020 through 1090 are Clearance Fit with 2 Set Screws at 90°. Sizes 1100 and larger are an Interference Fit with no Set Screw.

■ Based on application data, larger bores may be possible - contact Lovejoy Application Engineering.

Vertical Style

Size	Bore		Outer Dia OD	Overall Length OAL	Gap G	Length Thru Bore LTB	Hub Dia HD	Flange Dia FD	Length L	Flange Length FL	Max R	Set Screw		Weight lbs Solid	Moment of Inertia WR ² lb-in ² Solid
	Min	Max										Location SL	Size T		
1020	0.500	1.125	4.38	3.88	0.13	1.88	1.56	2.50	0.96	0.38	1.88	0.50	#8-32	4.3	5.320
1030	0.500	1.375	4.75	3.88	0.13	1.88	1.94	2.88	1.00	0.38	1.88	0.31	#8-32	5.7	7.990
1040	0.500	1.625	5.06	4.13	0.13	2.00	2.25	3.25	1.03	0.38	2.00	0.44	#10-24	7.4	11.990
1050	0.500	1.875	5.81	4.88	0.13	2.38	2.63	3.88	1.24	0.47	2.38	0.62	#10-24	12.0	25.760
1060	0.750	2.125	6.38	5.13	0.13	2.50	3.00	4.38	1.27	0.50	2.50	0.44	#10-24	16.0	41.160
1070	0.750	2.500	6.81	6.13	0.13	3.00	3.44	4.88	1.33	0.50	2.63	0.88	1/4-20	23.0	61.680
1080	1.000	3.000	7.13	7.13	0.13	3.50	4.13	5.88	1.74	0.50	3.50	0.94	1/4-20	39.0	148.000
1090	1.000	3.500	7.88	7.88	0.13	3.88	4.88	6.63	1.86	0.50	3.75	1.03	5/16-18	56.0	272.000
1100	1.625	4.000	9.69	9.69	0.19	4.75	5.59	7.75	2.38	0.63	4.75			93.0	608.000
1110	1.625	4.500	11.25	10.19	0.19	5.00	6.31	8.50	2.50	0.63	4.88			120.0	930.000
1120	2.375	5.000	12.56	12.00	0.25	5.88	7.06	9.63	2.94	0.68	5.63			180.0	1611.000
1130	2.625	6.000	14.88	13.00	0.25	6.38	8.56	11.13	3.00	0.82	5.75			270.0	3568.000
1140	2.625	7.000	16.38	14.75	0.25	7.80	10.00	12.63	3.13	0.82	6.13			397.0	6431.000

Spacer Styles



Full Spacer Style Grid Coupling

Standard Full Spacer Style

Coupling Size	Torque Rating in-lbs	Max Speed RPM	Max Bore inch	LTB inch	OD inch	FD inch	G inch	HD inch	OAL inch	BSE inch	S inch	T inch	SL inch	G ¹ inch
1020	422	3,600	1.375	1.38	4.00	3.38	0.19	2.06	6.26 7.76	3.50 5.00	1.63 2.38	# 8-32	0.30	0.03
1030	1200	3,600	1.625	1.62	4.38	3.69	0.19	2.34	6.74 8.24 10.49	3.50 5.00 7.25	1.63 2.38 3.50	# 8-32	0.38	0.03
1040	2000	3,600	2.125	2.12	4.62	4.44	0.19	3.09	7.74 9.24 11.49	3.50 5.00 7.25	1.63 2.38 3.50	# 10-24	1.04	0.03
1050	3500	3,600	2.375	2.38	5.44	4.94	0.19	3.44	9.76 12.01	5.00 7.25	2.38 3.50	# 10-24	0.78	0.03
1060	5500	3,600	2.875	2.88	5.94	5.69	0.19	4.06	10.76 13.01	5.00 7.25	2.34 3.47	# 10-24	1.18	0.06
1070	8000	3,600	3.125	3.12	6.38	6.00	0.19	4.31	11.24 13.49	5.00 7.25	2.34 3.47	# 1/4-20	1.28	0.06
1080	16,500	3,600	3.500	3.50	7.62	7.00	0.19	4.81	14.25	7.25	3.47	# 1/4-20	1.54	0.06
1090	30,000	3,600	4.000	4.00	8.38	8.25	0.19	5.62	15.25	7.25	3.47	# 5/16-18	1.76	0.06

Notes: ■ Couplings supplied to American Gear Manufacturers Association (AGMA) standard clearance fit and 2 set screws @ 90 degrees.
■ For sizes larger than 1090, consult Lovejoy Application Engineering.

Spacer Hubs For Full Spacer Coupling - Available BSE - Inch

Cplg Size	Spacer Hubs Dim	BSE														
		3.500	3.938	4.250	4.375	4.688	5.000	5.219	5.375	5.656	5.813	5.969	6.125	6.938	7.094	7.250
1020	S	1.625	1.625	1.625	2.062	2.062	2.375									
	S	1.625	2.062	2.375	2.062	2.375	2.375									
1030	S	1.625	1.625	1.625	2.062	2.062	2.375		1.625		2.062		2.375			3.500
	S	1.625	2.062	2.375	2.062	2.375	2.375		3.500		3.500		3.500			3.500
1040	S	1.625	1.625	1.625	2.062	2.062	2.375	1.625	1.625	2.062	2.062	2.375	2.375	3.444	3.444	3.500
	S	1.625	2.062	2.375	2.062	2.375	2.375	3.344	3.500	3.344	3.500	3.344	3.500	3.344	3.500	3.500
1050	S				2.062	2.062	2.375			2.062	2.062	2.375	2.375	3.344	3.344	3.500
	S				2.062	2.375	2.375			3.344	3.500	3.344	3.500	3.344	3.500	3.500
1060	S						2.344						2.344			3.469
	S						2.344						3.469			3.469
1070	S						2.344						2.344			3.469
	S						2.344						3.469			3.469
1080	S															3.469
	S															3.469
1090	S															3.469
	S															3.469

Notes: ■ To achieve the Between Shaft End dimension shown, use the two spacer hubs with the specified "S" lengths. To obtain the Between Shaft End dimension, use the two spacer hub lengths and the G and two G1 Dimensions.
■ Assembly includes 2 spacer hubs, 2 shaft hubs, and cover/grid assembly.

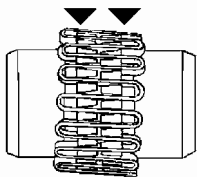
Torque and Horsepower Ratings



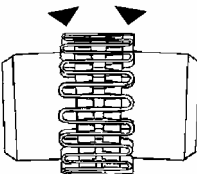
Torque and Horsepower Ratings

Size	100	Basic HP Ratings @ Varying RPM			Torque Ratings in-lbs Nm		Maximum Bore inch mm		Horizontal Max RPM	Vertical Max RPM
		1200	1800	3600						
1020	0.67	8.04	12.06	24.12	422	48	1.125	27	4500	6000
1030	1.88	22.56	33.84	67.68	1,200	136	1.375	35	4500	6000
1040	3.22	38.64	57.96	115.92	2,000	226	1.625	44	4500	6000
1050	5.49	65.88	98.82	197.64	3,500	395	1.875	51	4500	6000
1060	8.71	104.52	156.78	313.56	5,500	621	2.125	57	4350	6000
1070	12.73	152.76	229.14	458.28	8,000	904	2.500	68	4125	5500
1080	26.13	313.56	470.34	940.68	16,500	1,864	3.000	83	3600	4750
1090	47.57	570.84	856.26	1712.52	30,000	3,390	3.500	95	3600	4000
1100	80.00	960.00	1440.00		50,500	5,706	4.000	108	2440	3250
1110	119.00	1428.00	2142.00		75,000	8,474	4.500	117	2250	3000
1120	175.50	2106.00	3159.00		110,000	12,428	5.000	137	2025	2700
1130	253.30	3039.60	4559.40		160,000	18,078	6.000	165	1800	2400
1140	364.50	4374.00	6561.00		230,000	25,987	7.000	184	1650	2200
1150	509.58	6114.96			320,000	36,300	8.000	200	1500	
1160	724.14	8689.68			457,000	51,600	9.000	228	1350	
1170	952.11	11425.32			600,000	67,800	10.000	254	1225	
1180	1314.18				830,000	93,600	11.000	280	1100	
1190	1750.00				1,100,000	124,278	12.000	305	1050	
1200	2385.00				1,500,000	169,470	13.000	330	900	

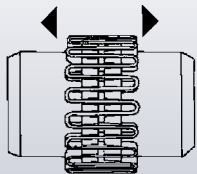
Parallel: The movement of the grid in the hub grooves accommodates parallel misalignment and still permits full functioning of the grid-groove action in damping out shock and vibration.



Angular: Under angular misalignment, the grid-groove design permits a rocking and sliding action of the grid and hubs without any loss of power through the resilient grid.



Axial: End float is permitted for both driving and driven members because the grid slides freely in the grooves.



Misalignment Capacity

Coupling Size	Max Operational Misalignment		Max Operational Misalignment		Normal Gap 10% G
	Parallel P	Angular X-Y	Parallel P	Angular X-Y	
1020	0.006	0.002	0.012	0.010	0.118
1030	0.006	0.003	0.012	0.011	0.118
1040	0.006	0.003	0.012	0.013	0.118
1050	0.008	0.004	0.016	0.015	0.118
1060	0.008	0.004	0.016	0.018	0.118
1070	0.008	0.005	0.016	0.020	0.118
1080	0.008	0.006	0.016	0.024	0.118
1090	0.008	0.007	0.016	0.028	0.118
1100	0.010	0.008	0.020	0.032	0.177
1110	0.010	0.009	0.020	0.035	0.177
1120	0.011	0.010	0.022	0.040	0.236
1130	0.011	0.012	0.022	0.047	0.236
1140	0.011	0.013	0.022	0.053	0.236
1150	0.012	0.015	0.024	0.061	0.236
1160	0.012	0.017	0.024	0.070	0.236
1170	0.012	0.020	0.024	0.079	0.236
1180	0.015	0.022	0.030	0.089	0.236
1190	0.015	0.024	0.030	0.096	0.236
1200	0.015	0.027	0.030	0.107	0.236

Note: ■ Misalignment ratings pertain to both standard and spacer grid couplings.

Service Factor Chart

Service Factor Chart

	Electric Motor w/ Standard Torque	Reciprocating Engines-4/5 Cylinder	Reciprocating Engines-6 or more Cyl		Electric Motor w/ Standard Torque	Reciprocating Engines-4/5 Cylinder	Reciprocating Engines-6 or more Cyl		Electric Motor w/ Standard Torque	Reciprocating Engines-4/5 Cylinder	Reciprocating Engines-6 or more Cyl
Aerator	2.00	3.00	2.50	Elevators²				Drive, Extruder, Forming			
Agitators				Bucket, Centrifugal, Discharge,				Machine, Forming Mills.....	2.00	3.00	2.50
Vertical/Horizontal Screw,				Gravity Discharge.....	1.25	2.25	1.75	Mixers (see Agitators)			
Propeller, Paddle.....	1.00	2.00	1.50	Freight or Passenger.....	NOT APPROVED			Muller.....	1.50	2.50	2.00
Barge Haul Puller	1.50	2.50	2.00	Escalators	NOT APPROVED			Concrete.....	1.75	2.75	2.25
Blowers				Exciter, Generator	1.00	2.00	1.50	Printing Press	1.50	2.50	2.00
Centrifugal.....	1.00	2.00	1.50	Extruder, Plastic	1.50	2.50	2.00	Pug Mill	1.75	2.75	2.25
Lobe, Vane.....	1.25	2.25	1.75	Fans				Pulverizers			
Car Dumpers	2.50	*	*	Centrifugal, Forced Draft Motor				Roller.....	1.50	2.50	2.00
Car Pullers	1.50	2.50	2.00	Driven thru Fluid or Electric Slip				Hammermill, Hog.....	1.75	2.75	2.25
Clarifier, Classifier	1.00	2.00	1.50	Clutch.....	1.00	2.00	1.50	Pumps			
Compressors				Induced Draft with Damper				Centrifugal Constant Speed.....	1.00	2.00	1.50
Centrifugal, Rotary, Screw.....	1.00	2.00	1.50	Control or Blade Cleaner.....	1.25	2.25	1.75	Centrifugal Frequent Speed			
Rotary, Lobe or Vane.....	1.25	2.25	1.75	Forced Draft-Across the Line				Changes under Load, Descaling,			
Reciprocating with Flywheel and				start, Gas Recirculating.....	1.50	2.50	2.00	w/ Accumulators, Gear, Rotary,			
Gear between Compressor and				Cooling Tower, Induced Draft				Vane.....	1.25	2.25	1.75
Prime Mover 4 or More Cyl.				without Controls.....	2.00	3.00	2.50	Reciprocating, 3 or more			
Single/Double Acting.....	1.75	2.75	2.25	Feeders				Cylinders.....	1.50	2.50	2.00
Reciprocating with flywheel				Apron, Belt, Disc, Screw.....	1.00	2.00	1.50	Reciprocating, 2 Cyl. Double			
and Gear between Compressor				Reciprocating.....	2.50	*	*	Acting.....	1.75	2.75	2.25
and Prime Mover Cyl. Double				Generators				Reciprocating, 2 Cyl. Single			
Acting.....	2.00	3.00	2.50	Even Load.....	1.00	2.00	1.50	Acting.....	2.00	3.00	2.50
Reciprocating with Flywheel and				Hoist or Railway Service.....	1.50	2.50	2.00	Reciprocating, 1 Cyl. Single/			
Gear between Compressor and				Welder Load.....	2.00	3.00	2.50	Double Acting.....	3.00	*	*
Prime Mover 1/2 Cyl. Single/				Hammermill	1.75	2.75	2.25	Screens			
Double Acting and 3 cyl.				Laundrywasher or Tumbler	2.00	3.00	2.50	Air Washing, Water.....	1.00	2.00	1.50
Single Acting.....	3.00	*	*	Line Shafts				Rotary Coal, Sand.....	1.50	2.50	2.00
Reciprocating Direct Connected,				Any Processing Machinery.....	1.50	2.50	2.00	Grizzly.....	2.00	3.00	2.50
Without Flywheels.....	Refer To Lovejoy			Machine Tools				Vibrating.....	2.50	*	*
Conveyors²				Auxiliary, Traverse Drive.....	1.00	2.00	1.50	Ski Tows, Lifts	NOT APPROVED		
Apron, Assembly, Belt, Chain,				Main Drive.....	1.50	2.50	2.00	Steering Gear	1.00	2.00	1.50
Flight, Screw.....	1.00	2.00	1.50	Bending Roll, Notching Press,				Stoker	1.00	2.00	1.50
Bucket.....	1.25	2.25	1.75	Punch Press, Planer, Plate				Tumbling Barrel	1.75	2.75	2.25
Live Roll, Shaker,				Reversing.....	1.75	2.75	2.25	Winch, Maneuvering			
Reciprocating.....	3.00	*	*	Manlifts	NOT APPROVED			Dredge, Marine.....	1.50	2.50	2.00
Cranes, Hoist^{1, 2}				Metal Forming Machines				Windlass	1.50	2.50	2.00
Slope.....	1.50	2.50	2.00	Slitters.....	1.00	2.00	1.50	Woodworking Machinery	1.00	2.00	1.50
Main or Skip Hoist, Bridge,				Wire Winder, Coilers, Uncoilers.....	1.50	2.50	2.00	Work Lift Platforms	NOT APPROVED		
Travel, Trolley ²	1.75	2.75	2.25	Wire Drawing, Flattening.....	1.75	2.75	2.25				
Dynamometer	1.00	2.00	1.50	Draw Bench Carriage, Main							

- Notes: ■ 1 indicates: For high peak load applications, please refer to selection process on page GD-5 of Lovejoy full-line catalog.
 ■ 2 indicates: If people are transported Lovejoy does not recommend and will not warranty the use of the coupling.
 ■ * indicates: That Lovejoy Application Engineering should be consulted with specific requirements.
 ■ Caution: Applications involving reciprocating engines and reciprocating driven devices are subject to critical rotational speeds which may damage the coupling and/or connected equipment. Contact Lovejoy Application Engineering with specific requirements.



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