

Couplings Reduce Vibration, Absorb Shock and Compensate for Misalignment.

The Power of Torsional Damping

The Lovejoy G-Type Flexible Grid Coupling reduces vibration by as much as 30%, and cushions shock loads to safeguard your driving and driven equipment. The flexible nature of the spring-like grid absorbs impact energy by spreading it out over time, thus reducing the magnitude of the peak loads. This is possible because of the progressive contact that occurs between the curved profile of the hub teeth and the flexible grid. Therefore, as the load increases, more of the tooth comes into contact with the grid, thus supplying superior protection and supreme performance.

Lovejoy G-Type Flexible Grid Couplings are designed for versatility. Common hubs and grids are used within a given size range for both horizontal and vertical split cover models. Grid installation and replacement is a “snap” at only a fraction of the complete coupling cost.

Benefits of the Grid Coupling include:

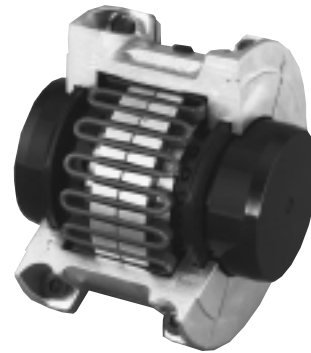
- Our 1000 Series Tapered Grid coupling is fully interchangeable with industry standards.
- Quick installation and easy maintenance reduces labor and downtime costs.
- Torsionally flexible and resilient - reduces vibration, plus cushions shock and impact loads.
- Versatile stock components can be used with either horizontal or vertical covers. Cover fasteners available in either Metric or Imperial sizes.
- High tensile, shot-peened alloy steel grids and precision machined hubs ensure superior performance and long life.

Top Quality Manufacturing

Made from a high tensile alloy steel, the grid spring is carefully formed to shape, then hardened and tempered under controlled conditions. Next, the grids are shot-peened, compressing the surface molecules and leaving a residually stressed surface. This process creates a stronger surface in compression.

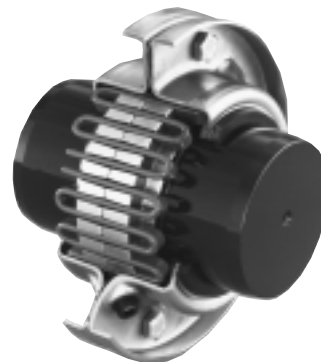
Any load applied on the coupling in operation must first surmount the compressive forces created by peening before the tensile stress reaches the grid. This provides a dramatic increase in rating over other coupling types, increases reserve strength for longer life and may permit selection of a smaller coupling, thus reducing cost.

The Lovejoy Grid spring/hub tooth arrangement has been specifically designed for optimum performance and supreme reliability. Not only does the hub tooth profile permit progressive loading under torsional shock conditions, but unique root radii are incorporated to significantly improve the fatigue life of the teeth.



HORIZONTALLY SPLIT COVER

- Ideal for limited space.
- Allows easy access to grid.
- Well-suited for reversing service.
- Manufactured from die-cast aluminum.



VERTICALLY SPLIT COVER

- Ideal for higher operating speeds.
- Manufactured from stamped steel.



FULL SPACER DESIGN

- Ideal for pump applications because drop-out section allows for pump servicing.
- Used only with horizontally split cover.
- Available in sizes 1020-1090.



WARNING

You must refer to page iv for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

General Service Factors

Chart 2

Typical Applications for Electric Motor or Turbine Driven Equipment	Typical Service Factor
Constant Torque such as Centrifugal Pumps, Blowers, and Compressors.	1.0
Continuous Duty with some torque variations including Printing Presses, Extruders, Forced Draft Fans.	1.5
Light shock loads from Briquetting Machine, Rubber Calender, or Crane and Hoist	2.0
Moderate shock loading as expected from a Car Dumper, Reciprocating Feeder, or Vibrating Screen.	2.5
Heavy Shock load with some negative torques from Crushers, Manipulators and Braking Drum.	3.0
Applications like Reciprocating Compressors with frequent torque reversals which do not necessarily cause reverse rotations.	Consult Lovejoy Application Engineering

Torque Ratings Taper-Lock Bushing Hubs

Chart 1

Size	Maximum Bore ¹		Maximum Torque	Rated Torque
	Taper-Lock Bushing	Bushing inch	Bushing in-lbs	Coupling in-lbs
1030	1108	1.125	1300.0	1200.0
1040	1108	1.125	1300.0	2000.0
1050	1215	1.250	3550.0	3500.0
1060	1615	1.625	4300.0	5500.0
1070	2012	2.000	7150.0	8000.0
1080	2525	2.500	11300.0	16500.0
1090	3030	3.000	24000.0	30000.0
1100	3030	3.000	24000.0	50500.0
1110	3535	3.500	44800.0	75000.0
1120	4040	4.000	77300.0	110000.0

Note: 1. The maximum bore is with a standard keyway.

Torque and Horsepower Ratings

Chart 3

Size	Basic HP Ratings @ Varying RPM				Torque Ratings		Maximum Bore		Horizontal Max RPM	Vertical Max RPM
	100	1200	1800	3600	in-lbs	Nm	inch	mm	x1000	x1000
1020	0.67	8.04	12.06	24.12	422	48	1.125	27	4.500	6.000
1030	1.88	22.56	33.84	67.68	1200	136	1.375	35	4.500	6.000
1040	3.22	38.64	57.96	115.92	2000	226	1.625	44	4.500	6.000
1050	5.49	65.88	98.82	197.64	3500	395	1.875	51	4.500	6.000
1060	8.71	104.52	156.78	313.56	5500	621	2.125	57	4.350	6.000
1070	12.73	152.76	229.14	458.28	8000	904	2.500	68	4.125	5.500
1080	26.13	313.56	470.34	940.68	16500	1864	3.000	83	3.600	4.750
1090	47.57	570.84	856.26	1712.52	30000	3390	3.500	95	3.600	4.000
1100	80	960.00	1440.00	.....	50500	5706	4.000	108	2.440	3.250
1110	119	1428.00	2142.00	.....	75000	8474	4.500	117	2.250	3.000
1120	175.5	2106.00	3159.00	.....	110000	12428	5.000	137	2.025	2.700
1130	253.3	3039.60	4559.40	.....	160000	18078	6.000	165	1.800	2.400
1140	364.5	4374.00	6561.00	.....	230000	25987	7.000	184	1.650	2.200
1150	509.58	6114.96	.....	.....	320000	36300	8.000	200	1.500	.....
1160	724.14	8689.68	.....	.....	457000	51600	9.000	228	1.350	.....
1170	952.11	11425.32	.....	.....	600000	67800	10.000	254	1.225	.....
1180	1314.18	.....	.....	.....	830000	93600	11.000	280	1.100	.....
G5430	509.58	6114.96	9172.44	.....	320000	36300	8.250	210	.....	2.400
G5431	724.14	8689.68	.....	.....	457000	51600	7.500	190	.....	1.450
G5433	952.11	11425.32	.....	.....	600000	67800	8.438	215	.....	1.300
G5435	1314.18	15770.16	.....	.....	830000	93600	9.250	235	.....	1.200
G5437	1756.71	.....	.....	.....	1100000	125000	10.438	265	.....	1.100
G5439	2386.98	.....	.....	.....	1500000	170000	11.563	295	.....	0.980
G5441	3178.17	.....	.....	.....	2000000	226000	12.750	325	.....	0.860
G5443	4291.2	.....	.....	.....	2700000	306000	16.313	415	.....	0.740

- Notes:**
1. The maximum bore for the G54 series includes a shallow keyway.
 2. Sizes 1020 through 1140 are tapered grid styles; sizes 1150 through G5443 are straight grid style.

Interchange Chart

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	.....	.....	.....	.....	.....	.....	.....
G5430	.....	.....	.....	.....	1150T20	.....	.....	.....
G5431	.....	.....	.....	.....	1160T20	.....	.....	.....
G5433	.....	.....	.....	.....	1170T20	.....	.....	.....

Note: 1020 to 1140 interchanges with Falk. 1150 and above are not direct interchanges with Falk.

Torque and Horsepower Ratings

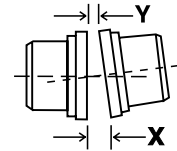
Size	Basic HP Ratings @ Varying RPM				Torque Ratings		Maximum Bore		Horizontal Max RPM	Vertical Max RPM
	100	1200	1800	3600	in-lbs	Nm	inch	mm	x1000	x1000
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1110	119.00	1428.00	2142.00	75000	8474	4.500	117	2.250	3.000
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1130	253.30	3039.60	4559.40	160000	18078	6.000	165	1.800	2.400
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G5441	3178.17	2000000	226000	12.750	325	0.860
G5443	4291.2	2700000	306000	16.313	415	0.740

Note: The maximum bore for 5430 to G5443 includes a shallow keyway.

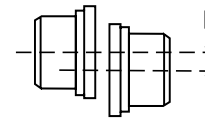
Misalignment Capacity

Coupling Size	Max. Installation Misalignment		Operating Misalignment		Normal Gap ±10 % G
	Parallel P	Angular X-Y	Parallel P	Angular X-Y	
1020	0.006	0.003	0.012	0.010	0.125
1030	0.006	0.003	0.012	0.012	0.125
1040	0.006	0.003	0.012	0.013	0.125
1050	0.008	0.004	0.016	0.016	0.125
1060	0.008	0.005	0.016	0.018	0.125
1070	0.008	0.005	0.016	0.020	0.125
1080	0.008	0.006	0.016	0.024	0.125
1090	0.008	0.007	0.016	0.028	0.125
1100	0.010	0.008	0.020	0.033	0.188
1110	0.010	0.009	0.020	0.036	0.188
1120	0.011	0.010	0.022	0.040	0.250
1130	0.011	0.012	0.022	0.047	0.250
1140	0.011	0.013	0.022	0.053	0.250
1150	0.010	0.014	.....	.....	0.248
1160	0.010	0.014	.....	.....	0.248
1170	0.010	0.014	.....	.....	0.248
1180	0.010	0.014	.....	.....	0.248
G5430	0.010	0.014	.....	.....	0.098
G5431	0.010	0.014	.....	.....	0.118
G5433	0.010	0.014	.....	.....	0.118
G5435	0.010	0.014	.....	.....	0.118
G5437	0.010	0.014	.....	.....	0.118
G5439	0.010	0.014	.....	.....	0.118
G5441	0.014	0.020	.....	.....	0.236
G5443	0.014	0.020	.....	.....	0.236

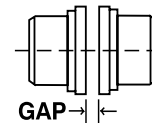
ANGULAR MISALIGNMENT



PARALLEL MISALIGNMENT

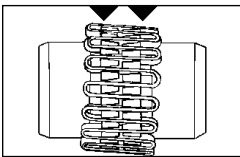


NORMAL GAP

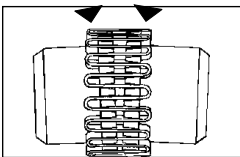


Note: Misalignment ratings pertain to both standard and spacer grid couplings.

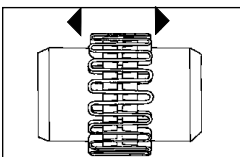
Misalignment Capacity:



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.



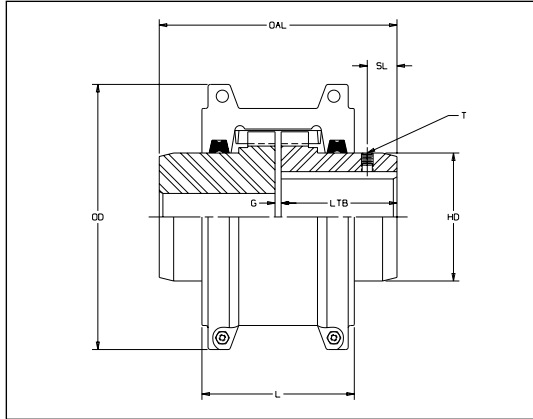
Angular: Under angular misalignment, the grid-groove design permits a rocking and sliding action of the grid and hubs without any loss of power through the resilient grid.



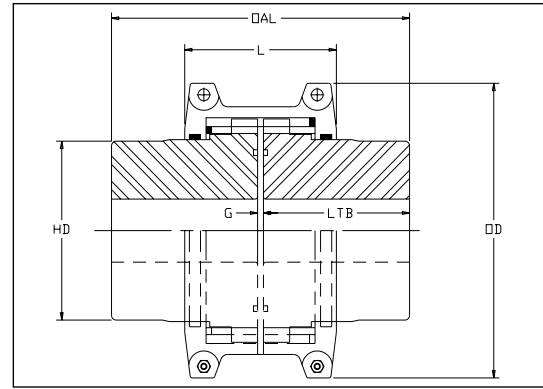
Axial: End float is permitted for both driving and driven members because the grid slides freely in the grooves.

Horizontal Style Grid Couplings

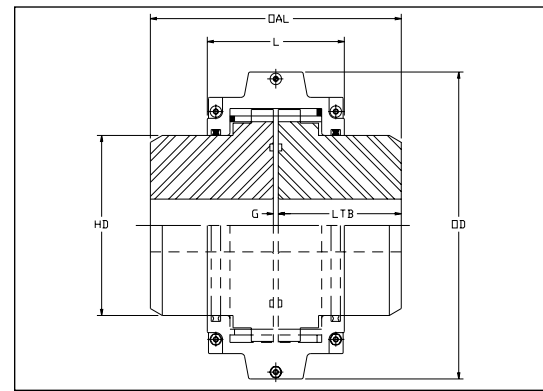
Grid couplings with horizontally split covers are ideal for limited space applications. The cover design allows for easy access to the grid. In addition, this cover style is well-suited for reversing service applications.



1020-1140



1150



1160-1180

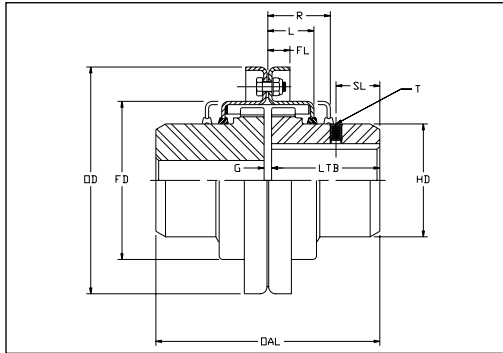
Dimensional Data—Inch

Size	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	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	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	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	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	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	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	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	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	1.625	4.000	9.88	9.69	0.19	4.75	5.59	6.13	.....	.....	93.0	609.000
1110	1.625	4.500	10.63	10.19	0.19	5.00	6.31	6.36	.....	.....	120.0	923.000
1120	2.375	5.000	12.13	12.00	0.25	5.88	7.06	7.55	.....	.....	179.0	1755.000
1130	2.625	6.000	13.63	13.00	0.25	6.38	8.56	7.69	.....	.....	266.0	3378.000
1140	2.625	7.000	15.13	14.75	0.25	7.25	10.00	7.92	.....	.....	392.0	6306.000
1150	3.000	8.000	17.91	14.65	0.25	7.20	11.54	8.42	.....	.....	523.0	.....
1160	4.188	9.000	20.47	15.85	0.25	7.80	11.97	10.43	.....	.....	720.0	.....
1170	4.188	10.000	23.03	17.25	0.25	8.50	13.98	11.85	.....	.....	1022.5	.....
1180	5.125	11.000	25.00	19.07	0.25	9.41	15.47	12.24	.....	.....	1341.7	.....

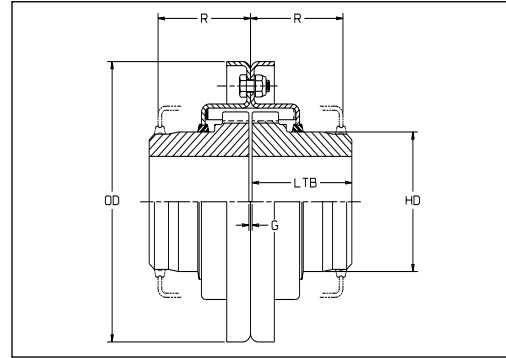
- Notes:**
- Maximum bores are less than shown above when an Interference Fit and Set Screw are required. Sizes 1020 through 1090 are Clearance Fit with 2 Set Screws at 90°. Sizes 1100 and larger are an Interference Fit with no Set Screw.
 - Based on application data, larger bores may be possible.

Vertical Style Grid Couplings

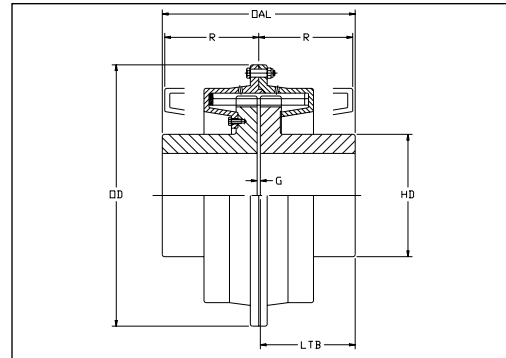
Vertically split cover design grid couplings are ideal for applications with higher operating speeds. Sizes G1020-1140 and G5430 are stamped steel, sizes G5431 and above are cast iron. This cover style offers superior protection and supreme performance.



1020-1140



1050V



1060V-1220V

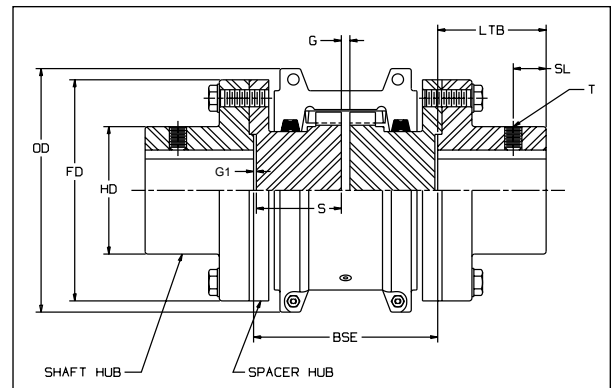
Dimensional Data—Inch

Size	Bore		Length									Set Screw		Weight lbs Solid	Moment of Inertia WR ² lb.in ² Solid
	Min.	Max.	Outer Dia. OD	Overall Length OAL	Gap G	Thru Bore LTB	Hub Dia. HD	Flange Dia. FD	Flange Length L	Flange Length FL	Flange Max R	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	7.88	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	9.13	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	10.50	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	7.50	10.00	12.63	3.13	0.82	6.13	.....	.....	397.0	6431.000
G5430	3.000	8.250	16.73	13.88	0.10	6.89	11.54	.....	.....	.....	5.91	.....	.....	511.6	9740.568
G5431	4.188	7.438	20.87	15.87	0.12	7.87	10.43	.....	.....	.....	7.72	.....	.....	632.8	20472.282
G5433	4.188	8.438	23.23	17.05	0.12	8.46	11.81	.....	.....	.....	8.58	.....	.....	848.9	34587.561
G5435	5.125	9.250	25.20	19.02	0.12	9.45	12.99	.....	.....	.....	8.98	.....	.....	1124.6	52838.309
G5437	5.125	10.375	26.77	20.59	0.12	10.24	14.57	.....	.....	.....	8.98	.....	.....	1459.7	77822.012
G5439	6.125	11.500	30.71	22.17	0.12	11.02	16.34	.....	.....	.....	9.76	.....	.....	1997.7	138486.953
G5441	6.125	12.688	34.25	24.25	0.24	12.01	17.91	.....	.....	.....	11.89	.....	.....	2826.8	259509.239
G5443	7.000	16.313	39.76	25.83	0.24	12.80	22.83	.....	.....	.....	11.89	.....	.....	4343.9	537064.161

- Notes:**
1. Maximum bores are less than shown above when an Interference Fit and Set Screw are required . Sizes 1020 through 1090 are Clearance Fit with 2 Set Screws at 90°. Sizes 1100 and larger are Interference Fit with no Set Screw.
 2. Based on application data, larger bores may be possible.

Spacer Style Grid Couplings

The full spacer design grid coupling is ideal for pump applications. The drop-out section allows for pump servicing.



Spacer Dimensional Data—Inch

Coupling Size	Bore Max.	LTB	OD	FD	G	HD	OAL	BSE	S	T	SL	G1
1020	1.375	1.38	4	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	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	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	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	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	3.125	3.12	6.38	6	0.19	4.31	11.24 13.49	5.00 7.25	2.34 3.47	1/4 -20	1.28	0.06
1080	3.5	3.5	7.62	7	0.19	4.81	14.25	7.25	3.47	1/4 -20	1.54	0.06
1090	4	4	8.38	8.25	0.19	5.62	15.25	7.25	3.47	5/16 -18	1.76	0.06

Note: Sizes 1020 through 1090 are Clearance Fit with 2 Set Screws at 90°.

Spacer Grid Couplings Ratings

Size	Basic HP Ratings @ Varying RPM			Torque Ratings		Maximum Bore		Max RPM x1000
	100	1200	1800	in-lbs	Nm	inch	mm	
1020	0.67	8.04	12.06	422	48	1.375	35	3.600
1030	1.88	22.56	33.84	1200	136	1.625	41	3.600
1040	3.22	38.64	57.96	2000	226	2.125	54	3.600
1050	5.49	65.88	98.82	3500	395	2.375	60	3.600
1060	8.71	104.52	156.78	5500	621	2.875	73	3.600
1070	12.73	152.76	229.14	8000	904	3.125	79	3.600
1080	26.13	313.56	470.34	16500	1864	3.500	89	3.600
1090	47.57	570.84	856.26	30000	3390	4.000	102	3.600

Spacer Style Grid Couplings

Full Spacer Coupling BSE—Inch

	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 Hubs S	1.625	1.625	1.625	2.062	2.062	2.375	.....	.....	.....	.....	.....	.....	.....	.....	.....
1030 Hubs S	1.625	1.625	1.625	2.062	2.062	2.375	.....	1.625	.....	2.062	.....	2.375	.....	.....	3.500
1040 Hubs 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	3.344	3.344	3.500
1050 Hubs S	.....	.....	.....	2.062	2.062	2.375	.....	.....	2.062	2.062	2.375	2.375	3.344	3.344	3.500
1060 Hubs S	.....	.....	.....	.....	.....	2.344	.....	.....	.....	.....	.....	2.344	.....	.....	3.469
1070 Hubs S	.....	.....	.....	.....	.....	2.344	.....	.....	.....	.....	.....	2.344	.....	.....	3.469
1080 Hubs S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.469
1090 Hubs S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.469

Note: 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.

Half Spacer Coupling BSE—Inch

	BSE				
	1.781	2.219	2.531	3.500	3.656
1020 Hub S	1.625	2.062	2.375	.....	.....
1030 Hub S	1.625	2.062	2.375	.....	3.500
1040 Hub S	1.625	2.062	2.375	3.344	3.500
1050 Hub S	.....	.....	2.375	3.344	3.500
1060 Hub S	.....	.....	2.344	.....	3.469
1070 Hub S	.....	.....	2.344	.....	3.469
1080 Hub S	.....	.....	.....	.....	3.469
1090 Hub S	.....	.....	.....	.....	3.469

Note: To achieve the Between Shaft End dimension shown, use the spacer hub with the specified "S" length. Assembly includes spacer hub, shaft hub, standard hub and cover/grid assembly.