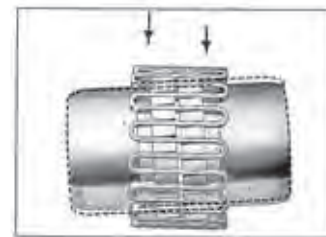


1. Characteristic & Merits

You can get more favorable convenience and cost down by using KCP Taper Grid Steel Flexible Couplings.

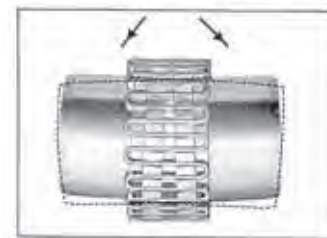
■ PARALLEL MISALIGNMENT

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



■ ANGULAR MISALIGNMENT

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



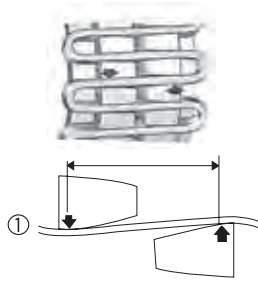
■ END FLOAT

Unrestrained end float of driving and driven members is permitted because the grid slides freely in the lubricated grooves.



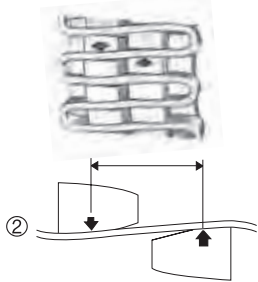
■ TORSIONAL FLEXIBILITY

Torsional flexibility is the advantage of KCP Taper Grid Couplings, providing flexible accommodation to changing load conditions.



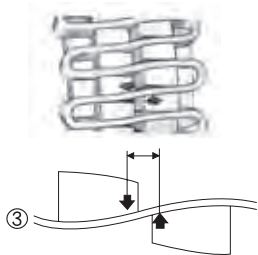
1 Grid in Light Load

The grid bears near the outer edges of the hub teeth. The long span between the points of contact remains flexible under load variations.



2 Grid in Normal Load

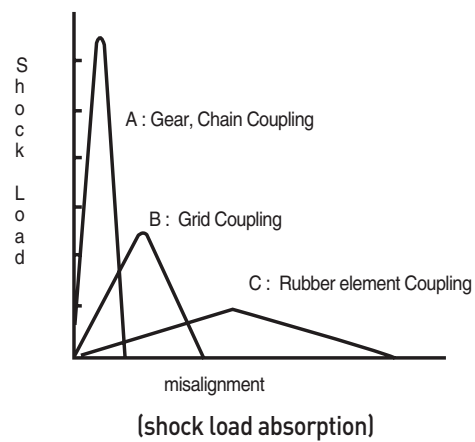
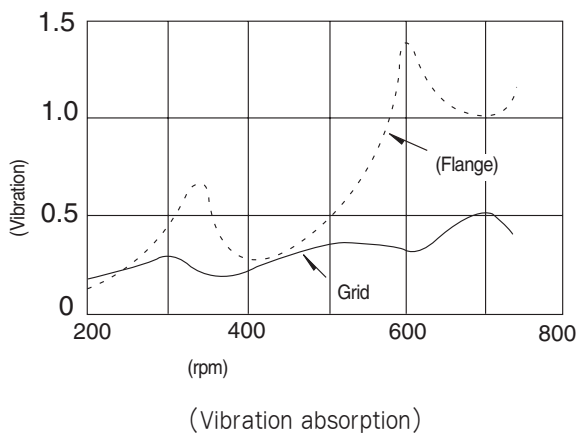
As the load increases, the distance between the contact points on the hub teeth is shortened, but a free span still remains flexible for shock loads.



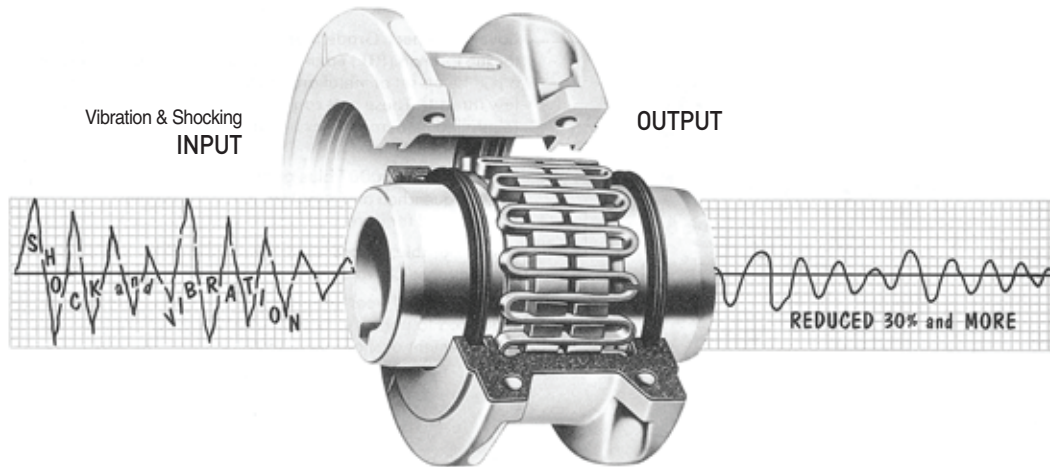
3 Grid in Shock Loads

The coupling is flexible within its rated power capacity. Under extreme overloads, the grid bears and transmits full load on the hub teeth directly.

KCP Taper Grid coupling creates the excellent performance as shown below.



The absorption of mechanical vibration of Taper Grid coupling



MERITS

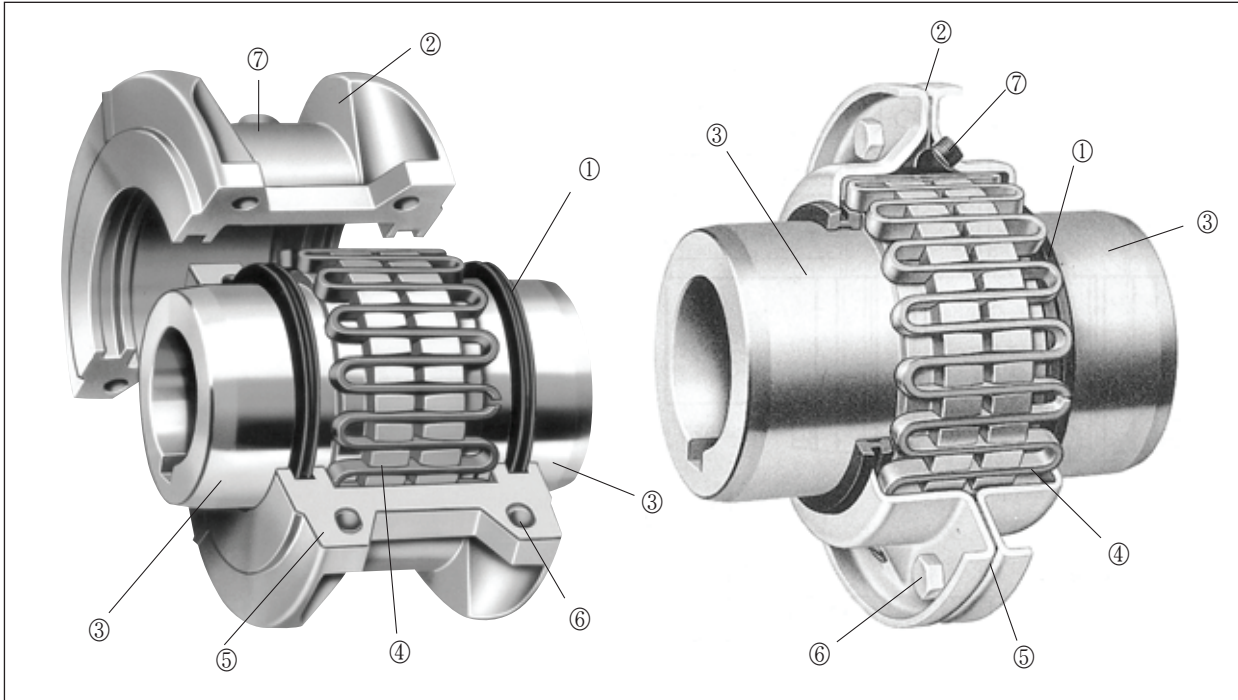
1. When overload occurs, grid breaks and prevents breaking shaft or machinery parts connected.
2. When the parallel misalignment is too severe, the relating machine is protected by the virtue of shearing Grid on Tooth.
3. The life of parts (Mechanical Seal and Bearing, etc) can be extended as twice or more.
4. Quick installation and easy maintenance reduce labor cost and down-time cost.
5. KCP Grid coupling is interchangeable with international major brands.
6. It always transmits the power fully (100%) in low noise.
7. You can use it at cheaper maintenance cost by changing damaged parts only.

2. Application

Pin-Bush Flange coupling and Chain Couplings have usually been used, but now using the KCP TAPER GRID COUPLINGS, you will get many benefits .

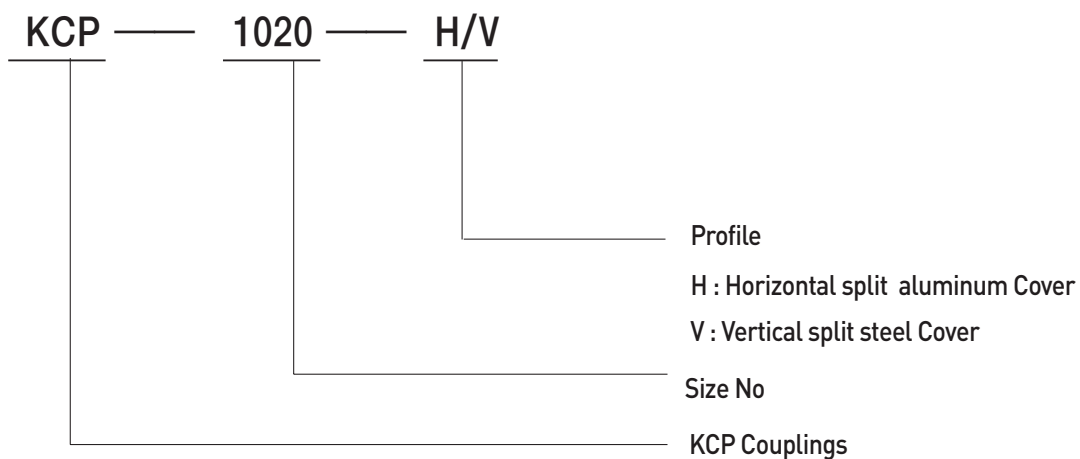
1. When required to reduce vibration and shock load.
2. When required adequate power transmission under line misalignment.
3. When required adequate power transmission under angular misalignment.
4. When required adequate power transmission under end floating.
5. When required to prevent breaking of the machinery parts under over load.
6. When reverse revolution is required.
7. When required smooth starting.

3. Structure



- | | | |
|------|-------------|-------------|
| Part | 1. Oil Seal | 4. Grid |
| | 2. H-Cover | 5. Gasket |
| | V-Cover | 6. Bolt |
| | 3. Hub | 7. Lub Plug |

4. Designation



- KSAS : Full spacer type(Horizontal split cover)
- KSFS : Half spacer type(Horizontal split cover)
- KSBW : Brake wheel type(Horizontal split cover)

5. Selection method of size

1. Selection method of size

- ① By using the following formula, obtain Design Torque required.

$$T = 97,400 \frac{\text{kw}}{\text{N}} \times \text{S.F} \quad T = 71,620 \frac{\text{HP}}{\text{N}} \times \text{S.F}$$

T = Design torque(kg · cm)
 kw = Power(kw)
 HP = Power(HP)
 N = Working revolution(rpm)
 S·F = Recommended service factor.

- ② Select the size with the same or with the greater value at the Basic Torque column, Refer to the maxmun shaft diamers of the size selected, and then compare the shaft diameters of the application with the max. bore dia of the size selected. If the coupling bore is not suitable, select the larger size coupling.
- ③ Special requirements
- A. on calculating the torque required, use the lowest operating speed(N) of the application
- B. If there are reverse motions repeated or frequent irregular load changes, take service factor twice.

2. Example

When you select a COUPLING to connect 30HP, 1,750rpm motor and rotary type pump. Motor shaft dia is 48mm and pump's 52mm.

- ① service factor of pump is 1.8.

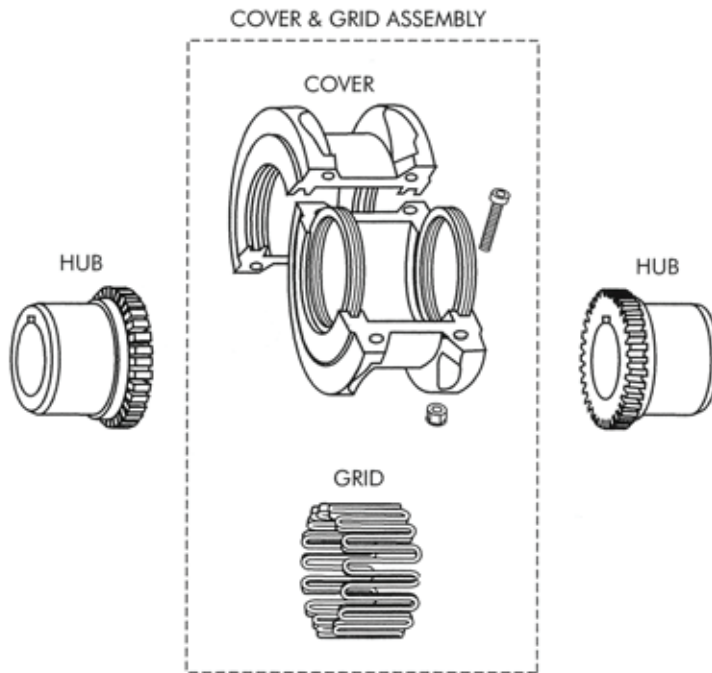
$$\text{Torque}(\text{kg} \cdot \text{cm}) = \frac{30 \times 71.620 \times 1.8}{1.750} = 2.210$$

- ② Normal transmitting power is 30HP.

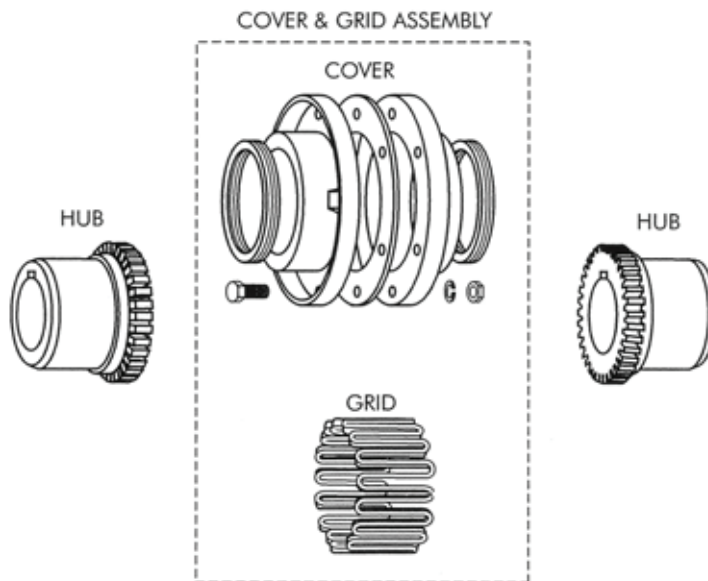
The coupling size 1040 accepts the calculated torque 2210kg · cm. And then compare the application shaft diameter sizes(52mm) to the maximum bore of the selected coupling size 1040(43 φ mm). You will select the coupling size 1060 accepting upto 55mm shaft dia meter. The size also accept the application motor speed 1750 rpm. Either H or V cover is available. Finally, the coupling size 1060 is selected.

6. Installation

Type H

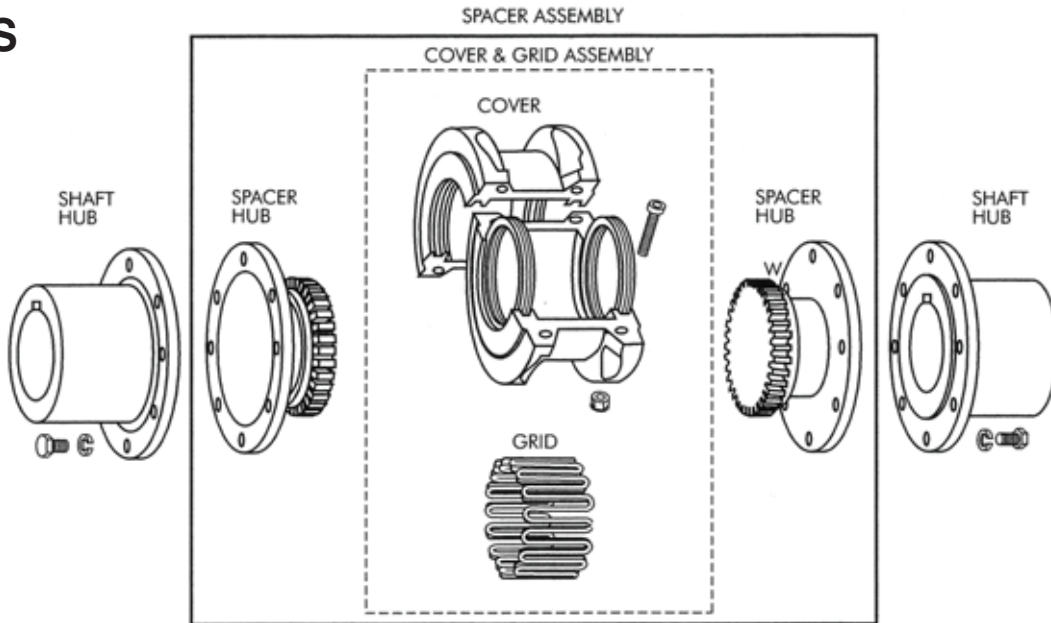


Type V



7. Installation

KSAS



KSFS

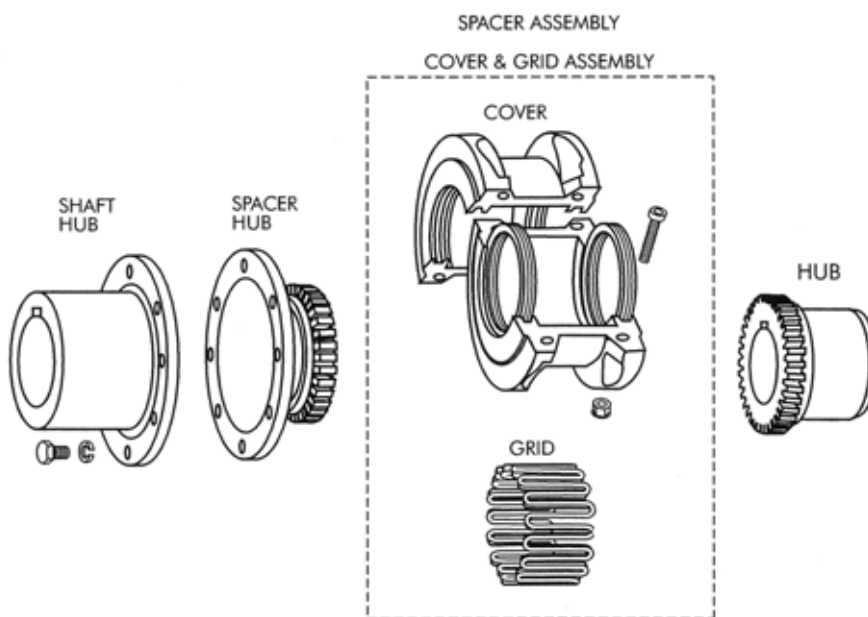
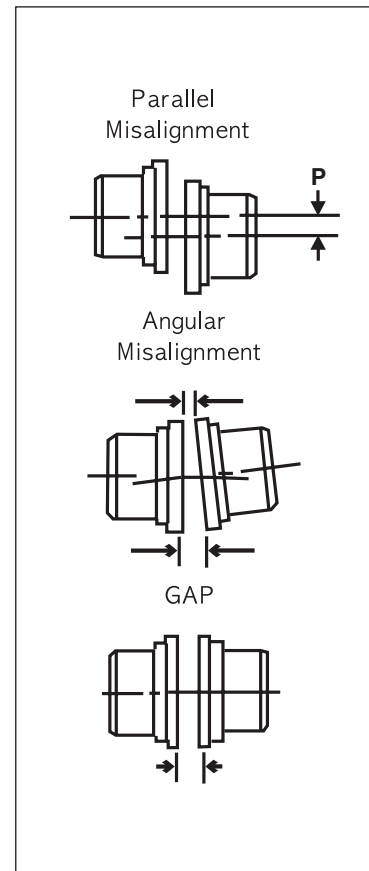


fig. 3 misalignment capacity

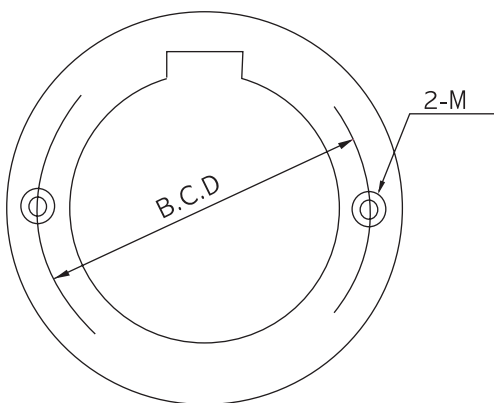
(Unit : mm)

Size	Recommended installation		Operating		Normal gap ±10%
	Parallel offset p	Angular(1/16°) X - Y	Parallel offset p	Angular(1/4°) X - Y	
1020	0.15	0.08	0.3	0.25	3
1030	0.15	0.08	0.3	0.30	3
1040	0.15	0.08	0.3	0.33	3
1050	0.20	0.10	0.4	0.41	3
1060	0.20	0.13	0.4	0.46	3
1070	0.20	0.13	0.4	0.51	3
1080	0.20	0.15	0.4	0.61	3
1090	0.20	0.18	0.4	0.71	3
1100	0.25	0.20	0.5	0.84	5
1110	0.25	0.23	0.5	0.91	5
1120	0.28	0.25	0.56	1.02	6
1130	0.28	0.30	0.56	1.19	6
1140	0.28	0.33	0.56	1.35	6
1150	0.30	0.41	0.6	1.57	6
1160	0.30	0.46	0.6	1.78	6
1170	0.30	0.51	0.6	2.01	6
1180	0.38	0.56	0.76	2.26	6
1190	0.38	0.61	0.76	2.46	6
1200	0.38	0.69	0.76	2.72	6



The life of coupling is reduced by excess of the limit.

8. Specification of Puller Holes)



CPLG Size	B.C.D. (mm)	Bolt Size	CPLG Size	B.C.D. (mm)	Bolt Size
1070	74	M8	1150	227.5	M20
1080	89.5	M8	1160	260	M20
1090	106	M10	1170	306	M24
1100	121.5	M10	1180	341	M30
1110	136.5	M10	1190	373	M30
1120	150.5	M12	1200	414	M30
1130	185	M16	1210	540	M30
1140	205	M16	1220	570	M30

NB. Finer Power stocks up to 1150

9. Lubrication and Handing

Choose high quality lubricant for KCP Taper Grid Couplings for good performance and long life.

1. Grease Lubrication

- Grease on the grid & hub teeth before assembling covers.
- Fill up grease through the lub plug of the assembled coupling.

2. Supplement

Every three month Every 240~250 hours operating, you should add grease.

3. Replacement

Every 3 months, or every 4,000 hours operating you should replace all the deteriorated grease.

4. Selection

Choose grease according to the ambient temperature range in table 5.

■ Common Industrial Lubricants(NYGL Grade #2)

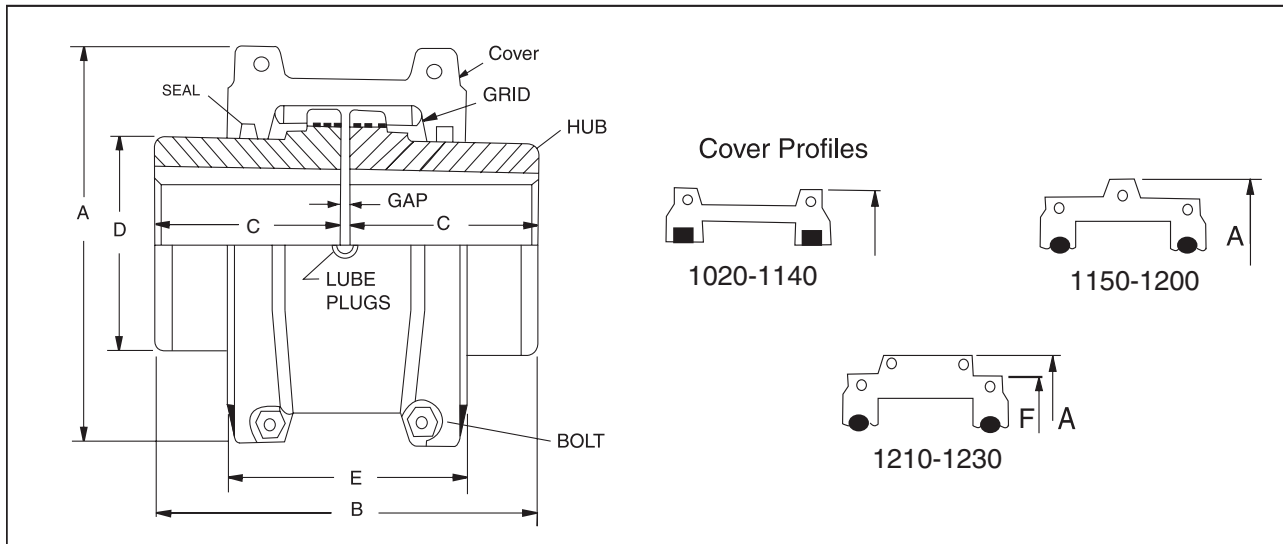
Table5

Manufacture	Ambient Temperature Range:	
	0° F to 150° F (-18° C to 66° C)	-30° F to 100° F (-34° C to 38° C)
Amoco Oil Co.	Amolith Grease #2	Amolith Grease #2
Atlantic Richfield co.	Litholene HEP 2	Litholene HEP 2
Chevron U.S.A Inc.	Chevron Dura-Lith EP-2	Chevron Dura-Lith EP-2
Cities Service Co.	Citgo HEP-2	Citgo HEP-2
Conoco Inc.	EP Conolith #2	EP Conolith #2
Exxon Company, USA	Ronex MP	Ronex MP
Gulf Oil Corp.	Gulfcrown Grease #2	Gulfcrown Grease #2
E.F.Houghton & Co.	Cosmolube #2	Cosmolube #1
Impenrial Oil Ltd.	Esso MP Grease H	Lotemp EP
Keystone Div.(Pennwalt)	#81 Light	#84 Light
Mobil Oil Corp.	Mobilux EP111	Mobilux #1
Phillips Petroleum Co.	IB & RB grease	Philube IB & RB grease
Shell Oil Co.	Alvania Grease #2	Alvania Grease #2
Standard Oil Co.(OH)	Factran #2	Factran #2
Sun Oil Company	Prestige 42	Prestige 42
Texaco Lubricants	Starplex HD 2	Multifac EP2
Union Oil Co.(CA)	Union Undoba #2	Union Undoba #2
Valvoline Oil Co.	Val-Lith EP #2	Val-Lith EP #2

- Note: For feed processing in dustry, check with lube manufacture for approved lubricants.

10. Dimensions

Type H (Horizontal Split Aluminium Cover)



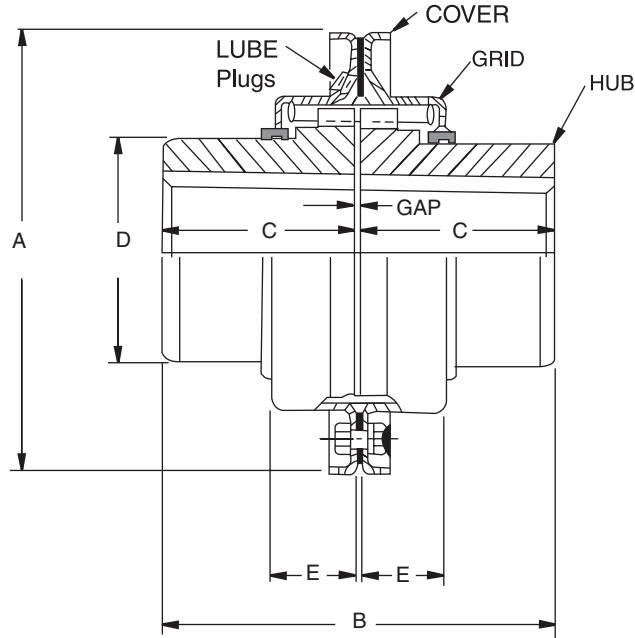
Size	HP Per 100 rpm	Max. Speed (rpm)	Basic Torque (kg · cm)	Bore Dia (mm)		Dimension (mm)					Gap (mm)			Cplg Wt (kg)	Lube Wt (kg)	Size
				Max.	Min.	A	B	C	D	E	Min.	Normal	Max.			
1020H	0.68	4,500	486	30	12	101.6	98.0	47.5	39.7	66.5	1.5	3	4.5	1.9	0.03	1020
1030H	1.93	4,500	1,383	35	12	110.0	98.0	47.5	49.2	68.3	1.5	3	4.5	2.6	0.03	1030
1040H	3.22	4,500	2,304	43	12	117.5	104.6	50.8	57.1	70.0	1.5	3	4.5	3.4	0.05	1040
1050H	5.63	4,500	4,033	50	12	138.0	123.6	60.3	66.7	79.5	1.5	3	4.5	5.4	0.05	1050
1060H	8.85	4,350	6,337	55	19	150.5	130.0	63.5	76.2	92.0	1.5	3	4.5	7.3	0.09	1060
1070H	13	4,125	9,217	65	19	161.9	155.4	76.2	87.3	95.0	1.5	3	4.5	10	0.11	1070
1080H	27	3,600	19,010	78	27.0	194.0	180.8	88.9	104.8	116.0	1.5	3	4.5	18	0.17	1080
1090H	48	3,600	34,564	95	27.0	213.0	199.8	98.4	123.8	122.0	1.5	3	6	25	0.25	1090
1100H	81	2,400	58,183	107	41	250.0	245.7	120.6	142.0	155.5	1.5	3	6	42	0.43	1100
1110H	121	2,250	86,411	117	41	270.0	258.5	127.0	160.3	161.5	1.5	4.5	9.5	54	0.51	1110
1120H	177	2,025	126,736	136	60	308.0	304.4	149.2	179.4	191.5	1.5	4.5	9.5	81	0.73	1120
1130H	257	1,800	184,343	165	67	346.0	329.8	161.9	217.5	195.0	1.5	6	12.5	121	0.91	1130
1140H	370	1,650	264,993	184	67	384.0	371.6	182.8	254.0	201.0	1.5	6	12.5	178	1.13	1140
1150H	515	1,500	368,686	203	108	453.1	371.8	182.9	269.2	271.3	1.5	6	12.5	234	1.95	1150
1160H	724	1,350	518,465	228	120.7	501.4	402.2	198.1	304.8	278.9	1.5	6	12.5	317	2.81	1160
1170H	965	1,225	691,286	279	133.4	566.4	437.8	215.9	355.6	304.3	1.5	6	12.5	448	3.49	1170
1180H	1,338	1,100	958,584	311	152.4	629.9	483.6	238.8	393.7	321.1	1.5	6	12.5	619	3.76	1180
1190H	1,770	1,050	1,267,358	339	152.4	675.6	524.2	259.1	436.9	325.1	1.5	6	12.5	776	4.40	1190
1200H	2,413	900	1,728,216	361	177.8	756.9	564.8	279.4	497.8	355.6	1.5	6	12.5	1,057	5.62	1200
1210H	3,230	820	2,304,288	366	177.8	844.5	622.3	304.8	533.4	431.8	3.0	13	24.0	1,424	10.50	1210
1220H	4,350	730	3,110,788	411	203.2	820.7	622.9	325.0	571.5	490.2	3.0	13	24.0	1,784	16.05	1220
1230H	5,640	680	4,438,775	450	250.0	1,003.3	703.8	345.4	609.6	546.1	3.0	13	24.0	2,267	24.00	1230

■ Coupling weight, with unbored hub assembly.

NB. Finer Power stocks up to 1150

"Why compete against your supplier when you can be our partner"

Type V (Vertical Split Steel Cover)



Size	HP Per 100 rpm	Max. Speed (rpm)	Basic Torque (kg · cm)	Bore Dia (mm)		Dimensions (mm)					Gap (mm)			Cplg Wt (kg)	Lub Wt (kg)	Size
				Max.	Min.	A	B	C	D	E	Min.	Normal	Max.			
1020	0.68	6,000	486	30	12.7	111.1	98.0	47.5	39.7	24.2	1.5	3	4.5	2.0	0.03	1020
1030	1.93	6,000	1,383	36	12.7	120.7	98.0	47.5	49.2	25.0	1.5	3	4.5	2.6	0.03	1030
1040	3.22	6,000	2,304	44	12.7	128.5	104.6	50.8	57.1	25.7	1.5	3	4.5	3.4	0.05	1040
1050	5.63	6,000	4,033	50	12.7	147.6	123.6	60.3	66.7	31.2	1.5	3	4.5	5.4	0.05	1050
1060	8.85	6,000	6,337	57	19.1	162.0	130.0	63.5	76.2	32.2	1.5	3	4.5	7.3	0.09	1060
1070	13	5,500	9,217	65	19.1	173.0	155.4	76.2	87.3	33.7	1.5	3	4.5	10.4	0.11	1070
1080	27	4,750	19,010	79	27.0	200.0	180.8	88.9	104.8	44.2	1.5	3	4.5	17.7	0.17	1080
1090	48	4,000	34,564	95	27.0	231.8	199.8	98.4	123.8	47.7	1.5	3	6	25.4	0.25	1090
1100	81	3,250	58,183	107	41.3	266.7	245.7	120.6	142.0	60.0	1.5	3	6	42.2	0.43	1100
1110	121	3,000	86,411	117	41.3	285.8	258.5	127.0	160.3	64.2	1.5	4.5	12.5	54.4	0.51	1110
1120	177	2,700	126,736	136	60.3	319.0	304.4	149.2	179.4	73.4	1.5	4.5	12.5	81.6	0.73	1120
1130	257	2,400	184,343	165	66.7	377.8	329.8	161.9	217.5	75.1	1.5	6	12.5	122.5	0.91	1130
1140	370	2,200	264,993	184	66.7	416.0	371.6	182.8	254.0	78.2	1.5	6	12.5	180.1	1.13	1140
1150	515	2,000	368,686	203	108.0	476.3	371.8	182.9	269.2	106.9	1.5	6	12.5	230.0	1.95	1150
1160	724	1,750	518,465	228	120.7	533.4	402.2	198.1	304.8	114.3	1.5	6	12.5	321.1	2.81	1160
1170	965	1,600	691,286	279	133.4	584.2	437.8	215.9	355.6	119.4	1.5	6	12.5	448.2	3.49	1170
1180	1,338	1,400	958,584	311	152.4	630.0	483.6	238.8	393.7	130.0	1.5	6	12.5	591.0	3.76	1180
1190	1,770	1,300	1,267,358	339	152.4	685.0	524.2	259.1	436.9	135.0	1.5	6	12.5	761.0	4.40	1190
1200	2,413	1,100	1,728,216	361	177.8	737.0	564.8	279.4	497.8	145.0	1.5	6	12.5	1,021.0	5.62	1200

■ Coupling weight without Bore machining.