



## 1. Characteristic & Merits

You can get more favourable convenience and count down by using KCP Taper Grip Steel Flexible Coupling

### - 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

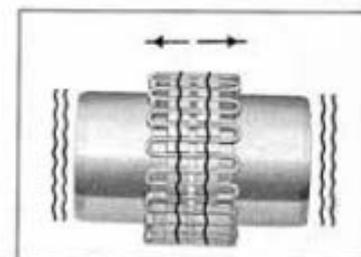
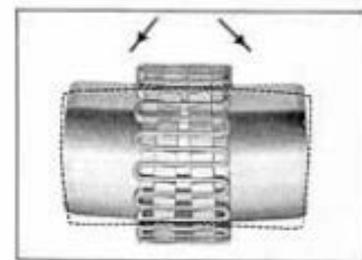
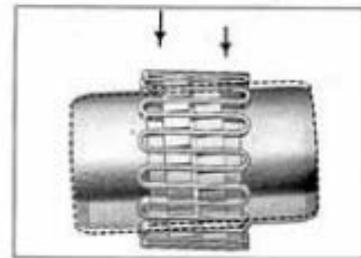
Under angular misalignment, the grid-groove design permits a rocking and sliding action of the lubricated grid and hubs without any loss of power through the resilient grid

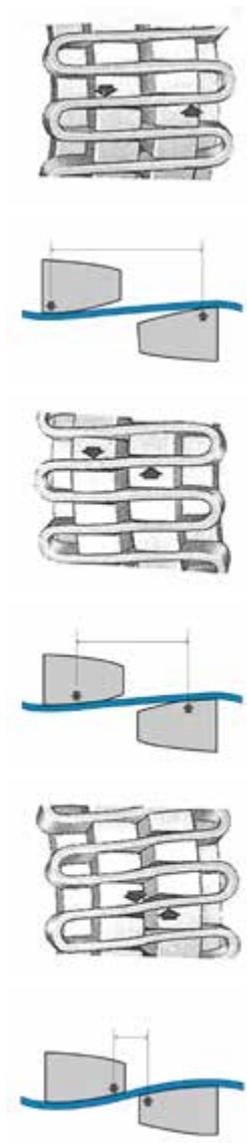
### - End Floating

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.

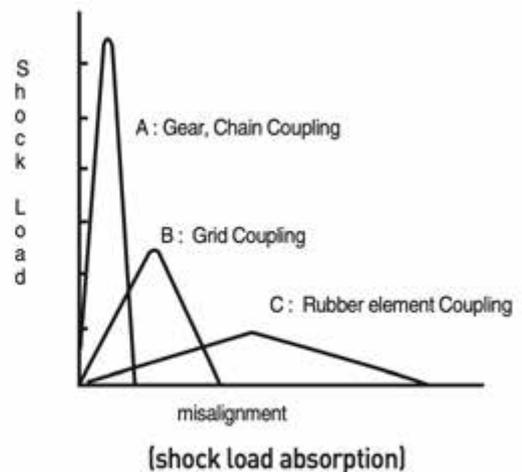
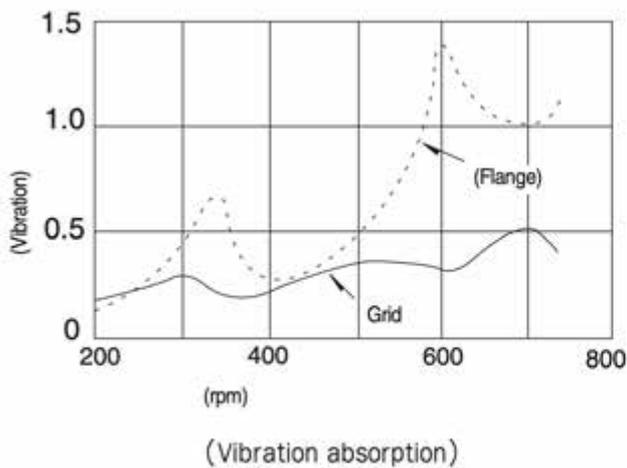
### 2. Grid in Normal Load

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.

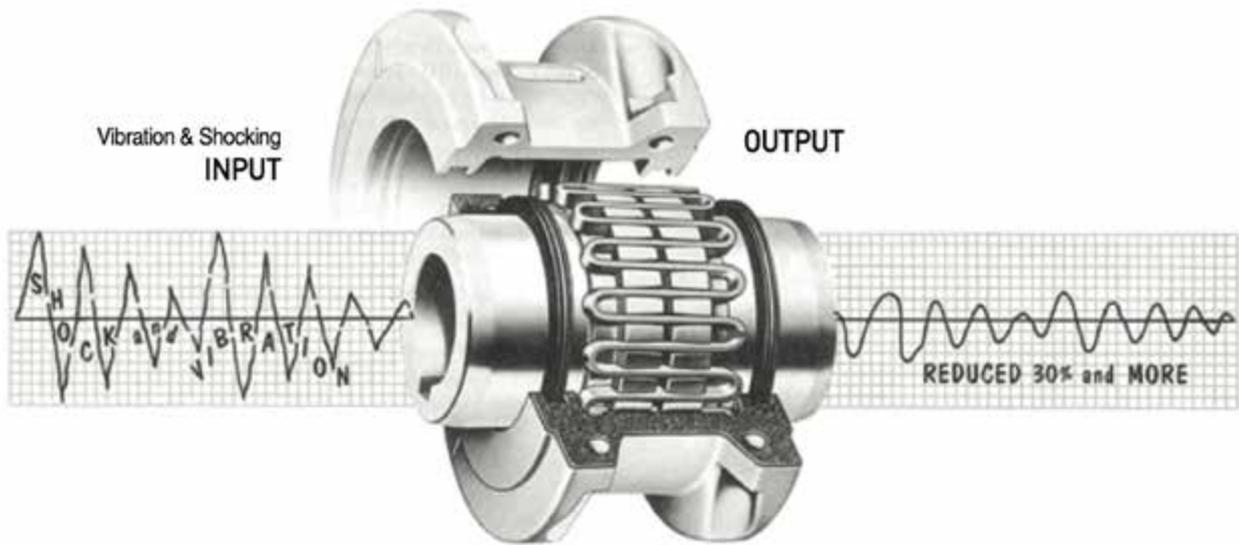
### 3. Grid in Shock Loads

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

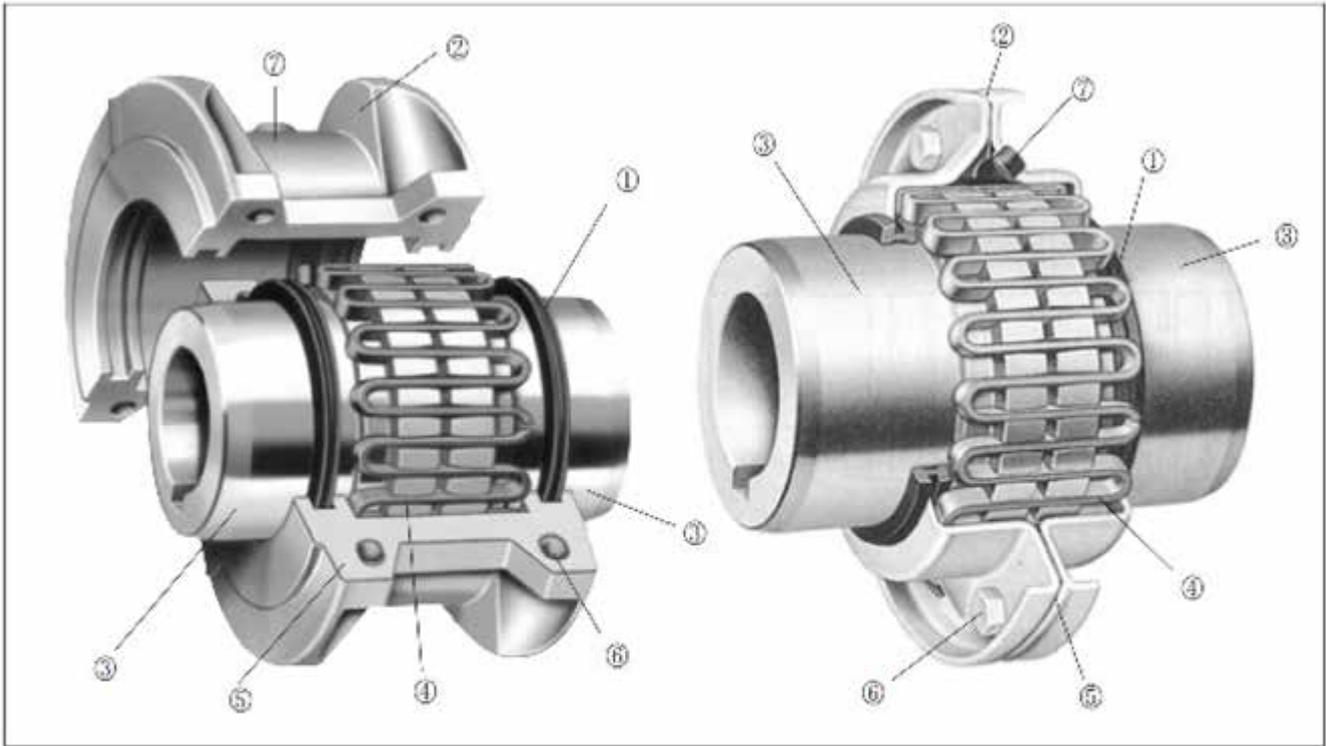
1. When overload occurs, grid breaks and prevents breaking shaft or machinery parts connected.
2. When the parallel misalignment is too severe, the relating machine is protected by the virtue of shearing Grid on Tooth.
3. The life of parts(Mechanical Seal and Bearing, etc) can be extended as twice or 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

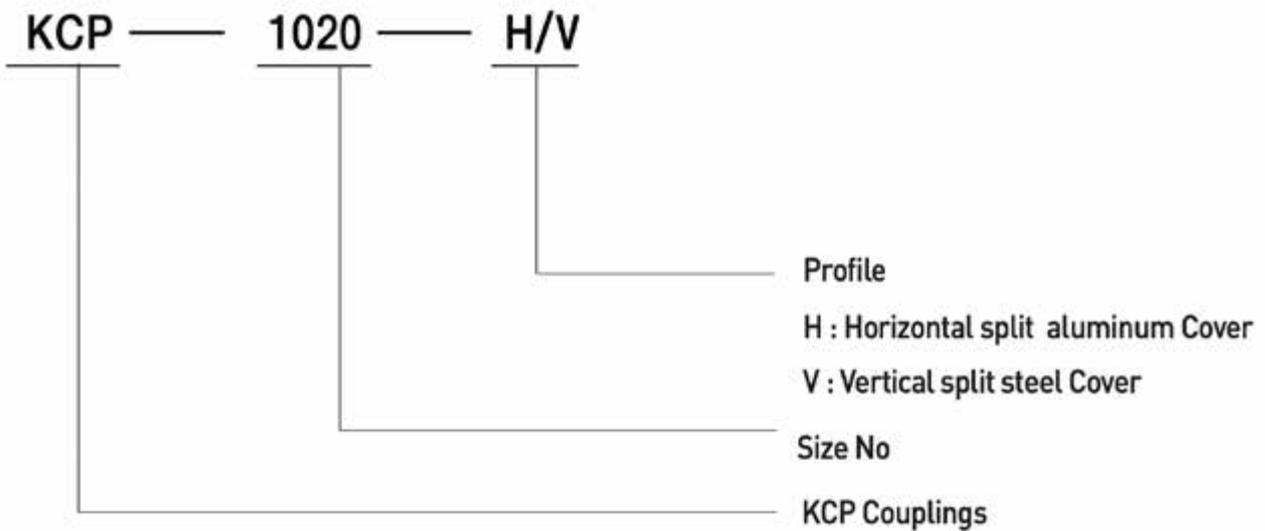
1. When reduction of vibration and shock load is required.
2. When adequate power transmission under line misalignment is required.
3. When adequate power transmission under angular misalignment is required.
4. When adequate power transmission under end floating is required.
5. When it is necessary to prevent machinery part breakage under overload.
6. When reverse revolution is required.
7. When a smooth start is required.

### 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 of Method

### 1. Selection of Method size

By using the following formula, obtain Design Torque required.

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

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

- Select the size with the same or with the greater value at the Basic Torque column, Refer to the maximum 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.

- 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 kind changes, take service factor twice.

### 2.Example

When you select a COUPLING to connects 30HP, 1,1750rm motor and rotary type pump. Motor shaft dia is 48mm and pump's 52mm.

- service factor of pump is 1.8

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

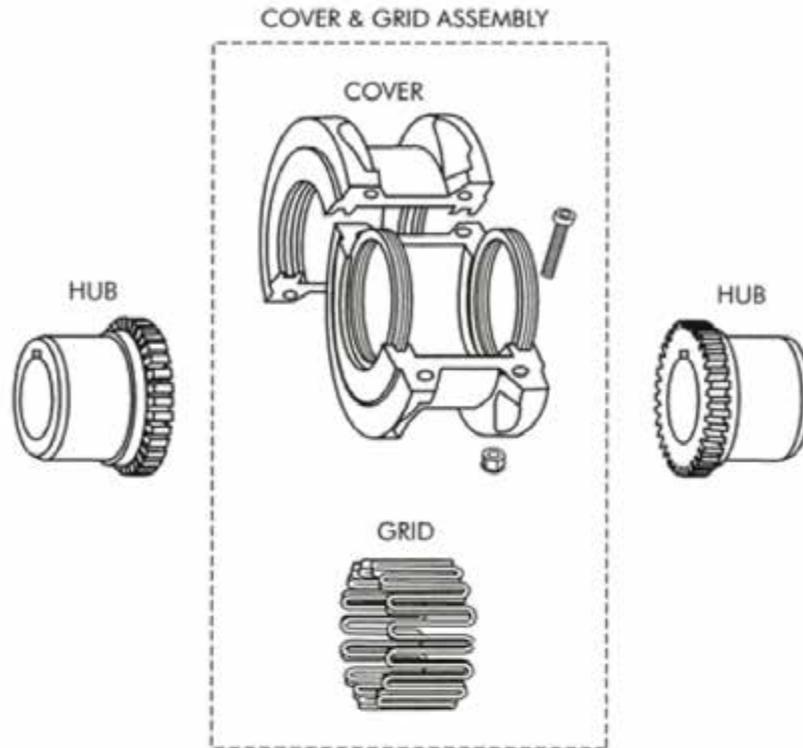
- Normal transmitting power is 30HP

The coupling size 1040 accepts the calculated torque 2210 . And then compare the application shaft diameter sizes(52mm) to the maximum bore of the selected coupling size 1040(43 mm).

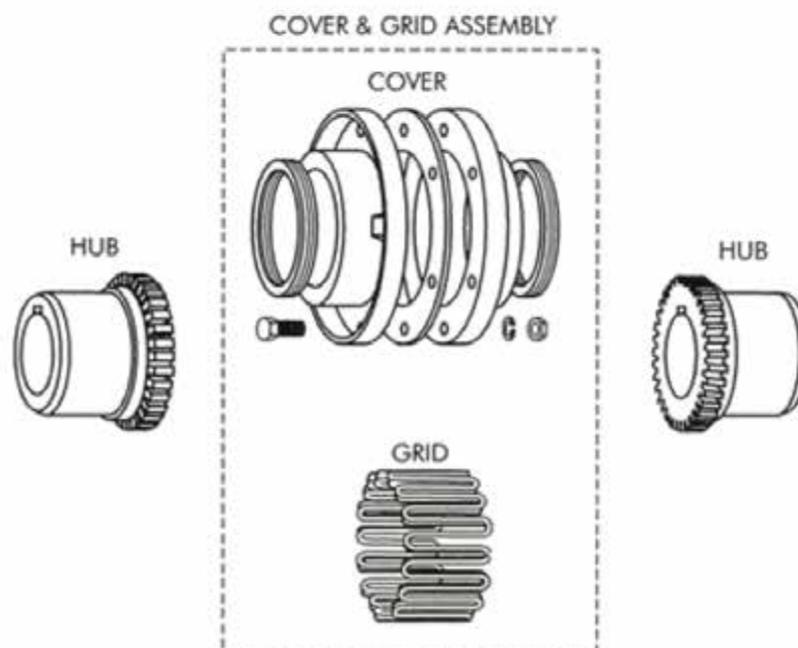
You will select the coupling size 1060 accepting upto 55mm shaft dia meter. The size also accepts the application motor speed 1750 rpm. Either H or V cover is available. Finally, the coupling size 1060 is selected.

## 6. Installation

### Type H

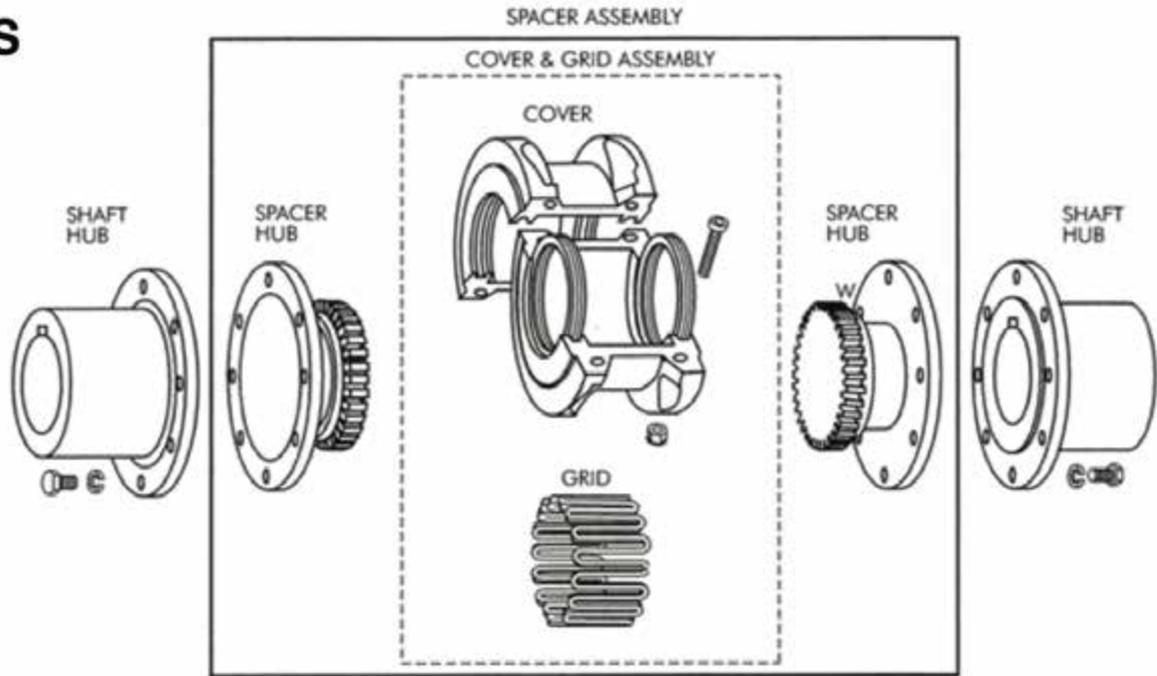


### Type V



## 7. Installation

### KSAS



### KSFS

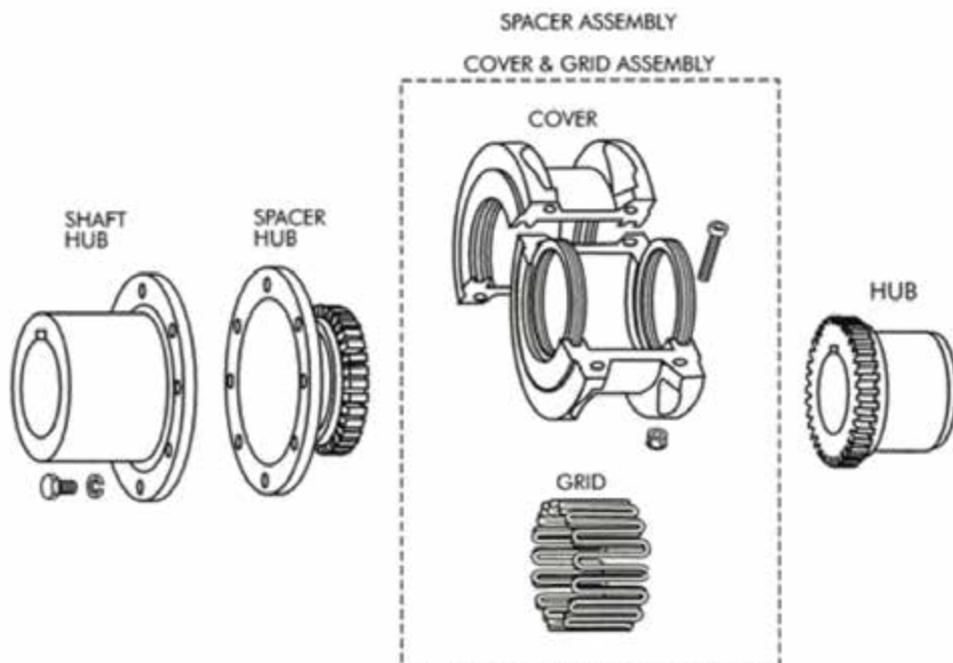
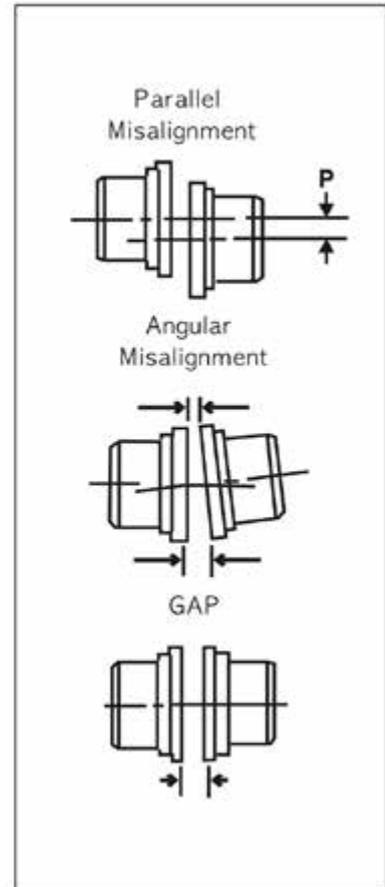


fig. 3 misalignment capacity

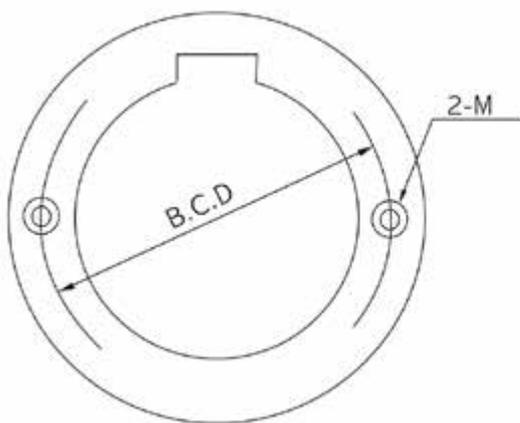
(Unit : mm)

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. larger sizes available on request

## 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 lube plug of the assembled coupling.

### 2. Supplement

Add new grease every three months or 240-250 hours of operation

### 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.

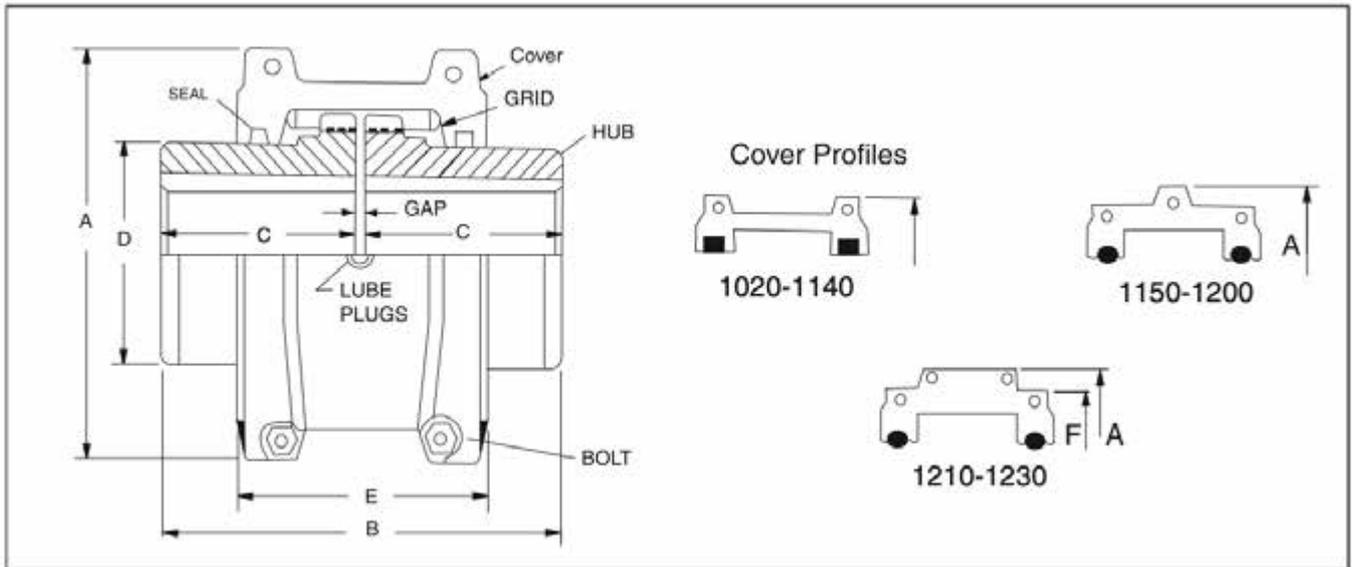
■ **Common Industrial Lubricants(NYGL Grade #2)**

**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 dusty, check with lube manufacture for approved lubricants.

## 10. Dimensions

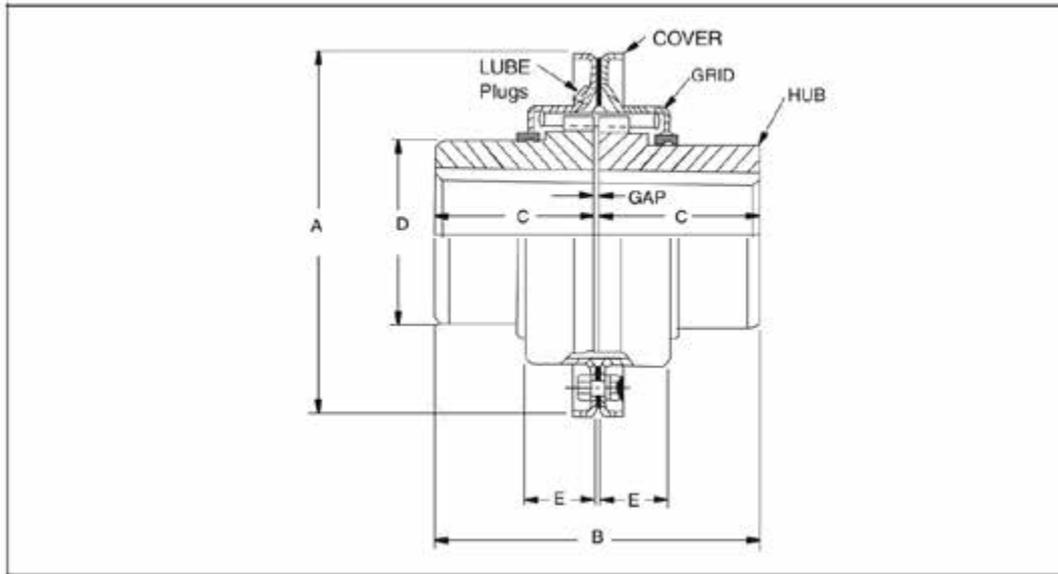


Type H (Horizontal Split Aluminium Cover)

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	00012	101.6	098.0	047.5	039.7	066.5	1.5	3	4.5	1.9	0.03	1020
1030H	1.93	4,500	1,383	35	00012	110.0	098.0	047.5	049.2	068.3	1.5	3	4.5	2.6	0.03	1030
1040H	3.22	4,500	2,304	43	00012	117.5	104.6	050.8	057.1	070.0	1.5	3	4.5	3.4	0.05	1040
1050H	5.63	4,500	4,033	50	00012	138.0	123.6	060.3	066.7	079.5	1.5	3	4.5	5.4	0.05	1050
1060H	8.85	4,350	6,337	55	00019	150.5	130.0	063.5	076.2	092.0	1.5	3	4.5	7.3	0.09	1060
1070H	13	4,125	9,217	65	00019	161.9	155.4	076.2	087.3	095.0	1.5	3	4.5	10	0.11	1070
1080H	27	3,600	19,010	78	027.0	194.0	180.8	088.9	104.8	116.0	1.5	3	4.5	18	0.17	1080
1090H	48	3,600	34,564	95	027.0	213.0	199.8	098.4	123.8	122.0	1.5	3	6	25	0.25	1090
1100H	81	2,400	58,183	107	00041	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	00041	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	00060	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	00067	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	00067	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	00108	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. Larger sizes available on request.



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	012.7	111.1	098.0	047.5	039.7	024.2	1.5	3	4.5	2.0	0.03	1020
1030	1.93	6,000	1,383	36	012.7	120.7	098.0	047.5	049.2	025.0	1.5	3	4.5	2.6	0.03	1030
1040	3.22	6,000	2,304	44	012.7	128.5	104.6	050.8	057.1	025.7	1.5	3	4.5	3.4	0.05	1040
1050	5.63	6,000	4,033	50	012.7	147.6	123.6	060.3	066.7	031.2	1.5	3	4.5	5.4	0.05	1050
1060	8.85	6,000	6,337	57	019.1	162.0	130.0	063.5	076.2	032.2	1.5	3	4.5	7.3	0.09	1060
1070	13	5,500	9,217	65	019.1	173.0	155.4	076.2	087.3	033.7	1.5	3	4.5	10.4	0.11	1070
1080	27	4,750	19,010	79	027.0	200.0	180.8	088.9	104.8	044.2	1.5	3	4.5	17.7	0.17	1080
1090	48	4,000	34,564	95	027.0	231.8	199.8	098.4	123.8	047.7	1.5	3	6	25.4	0.25	1090
1100	81	3,250	58,183	107	041.3	266.7	245.7	120.6	142.0	060.0	1.5	3	6	42.2	0.43	1100
1110	121	3,000	86,411	117	041.3	285.8	258.5	127.0	160.3	064.2	1.5	4.5	12.5	54.4	0.51	1110
1120	177	2,700	126,736	136	060.3	319.0	304.4	149.2	179.4	073.4	1.5	4.5	12.5	81.6	0.73	1120
1130	257	2,400	184,343	165	066.7	377.8	329.8	161.9	217.5	075.1	1.5	6	12.5	122.5	0.91	1130
1140	370	2,200	264,993	184	066.7	416.0	371.6	182.8	254.0	078.2	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