

AEC

COUPLINGS





AEC

COUPLINGS

Dear Customer,

It is our pleasure to present you with our **AEC COUPLINGS** Catalog.

This Catalog contains the latest information of the following products:

Grid Couplings
Gear Couplings
Disk Couplings
Fluid Couplings

We hope you enjoy using this catalog for all ordering information.
You can also access this catalog online through our webpage

www.atlantic-bearing.com

Any improvement suggestions are greatly appreciated.

Coupling Selection

Selecting Method

Standard Selection

The standard selection can be used when the prime mover is an electric motor, a turbine or an engine. In these applications, the following information is required:

- Application or type of Equipment to be coupled (e.g., motor to pump, reducer to conveyor)
- Input and output shafts diameters D1 and D2 (mm)
- Gap between shafts G (mm)
- Rotational frequency n (1/min)
- System Power P (kW)

- **System torque T:** Calculate it using the following equation

$$T = 9550 \times P / n$$

- **Service Factor SF (1):** Determine it from pages 5-7.
- **Minimum Coupling Rating TRmin:** Calculate the required minimum coupling rating using the following equation: $TR_{min} = T \times SF$
- **Type:** Select coupling type.
- **Coupling Size:** Find a coupling whose rating torque TR is not less than TRmin
- **Check:** Verify allowable n, G, D1, D2

Formula Selection

The Standard Selection procedure should be used for most coupling selections. However, the Formula Selection procedure should be used for the following cases:

- When peak load is high
- When applying brakes (Brake disc or brake wheel is an essential part of coupling.)

Using the Formula Selection method and providing system peak torque and frequency, duty formula cycle, brake torque rating allow for a detailed selection.

When peak load is high: Formula A or B should be used for motors with higher than normal torque characteristics. Also, these formula should be used when intermittent operations including shock load, inertia effects from starting and stopping and repetitive, system-induced high peak torques are involved. System peak torque is the maximum torque that can exist in the system. A coupling with a torque rating equal to greater than the selection torque calculated with the equations below should be selected.

Non-Reverse High-Peak Rating Torque TNRP (Nm) = max(System Peak Torque or Torque A)

$$\text{Torque A (Nm)} = 9550 \times \text{System Peak kW} / n$$

Reverse High-Peak Rating Torque TRRP (Nm) = max(2 × System Peak Torque or Torque B)

$$\text{Torque B (Nm)} = 9550 \times 2 \times \text{System Peak kW} / n$$

When applying brakes: Use the brake rating when the torque rating of the brake exceeds the motor torque. In these cases, Rating Torque (Nm) = Brake Torque Rating × Service Factor

Service Factors

Special service factors apply when the system prime mover is a multi-cylinder engine with torque fluctuations not over ±20%, and a dynamic analysis ensures no serious drive train vibration will occur during system operation.

Number of Cylinders	4 or 5					6 or More				
	Service Factor	1.5	1.75	2	2.25	2.5	1.5	1.75	2	2.25
Engine Service Factor	2.5	2.75	3	3.25	3.5	2.5	2.75	3	3.25	3.5

Special engine service factor is obtained in Table above, from service factor given below in pages 5-7. When service factor is greater than 2.0 or when dealing with 1-, 2- or 3-cylinder engines, refer system details to AEC COUPLINGS & CouplingES for an engineering review

Service Factor and Reference

Service Factors listed are typical values based on normal operation of the drive systems.

Alphabetical listing of applicationn	Service Factor		
		COMPRESSORS	4.0
		Centrifugal	1.1
AERATOR	2.5	Rotary, Lobe or Vane, Screw	2.0
AGITATORS		Reciprocation	
Vertical and Horizontal		Direct Connected	
Screw, Propeller, Paddle	1.5	With out Flywheels	
BARGE HAUL PULLER	3.0	With flywheel and Gear between	
BLOWERS		Compressor and Prime Mover	
Centrifugal	1.5	1 cylinder, single acting	5.0
Lobe or Vane	1.75	1 cylinder, double acting	5.0
CAR DUMPERS	4.0	2 cylinder, single acting	5.0
CLARIFIER OR CLASSIFIER	1.5	2 cylinder, double acting	5.0
		3 cylinder, single acting	3.0
		3 cylinder, double acting	3.5
		4 or more cyL, single act	3.5

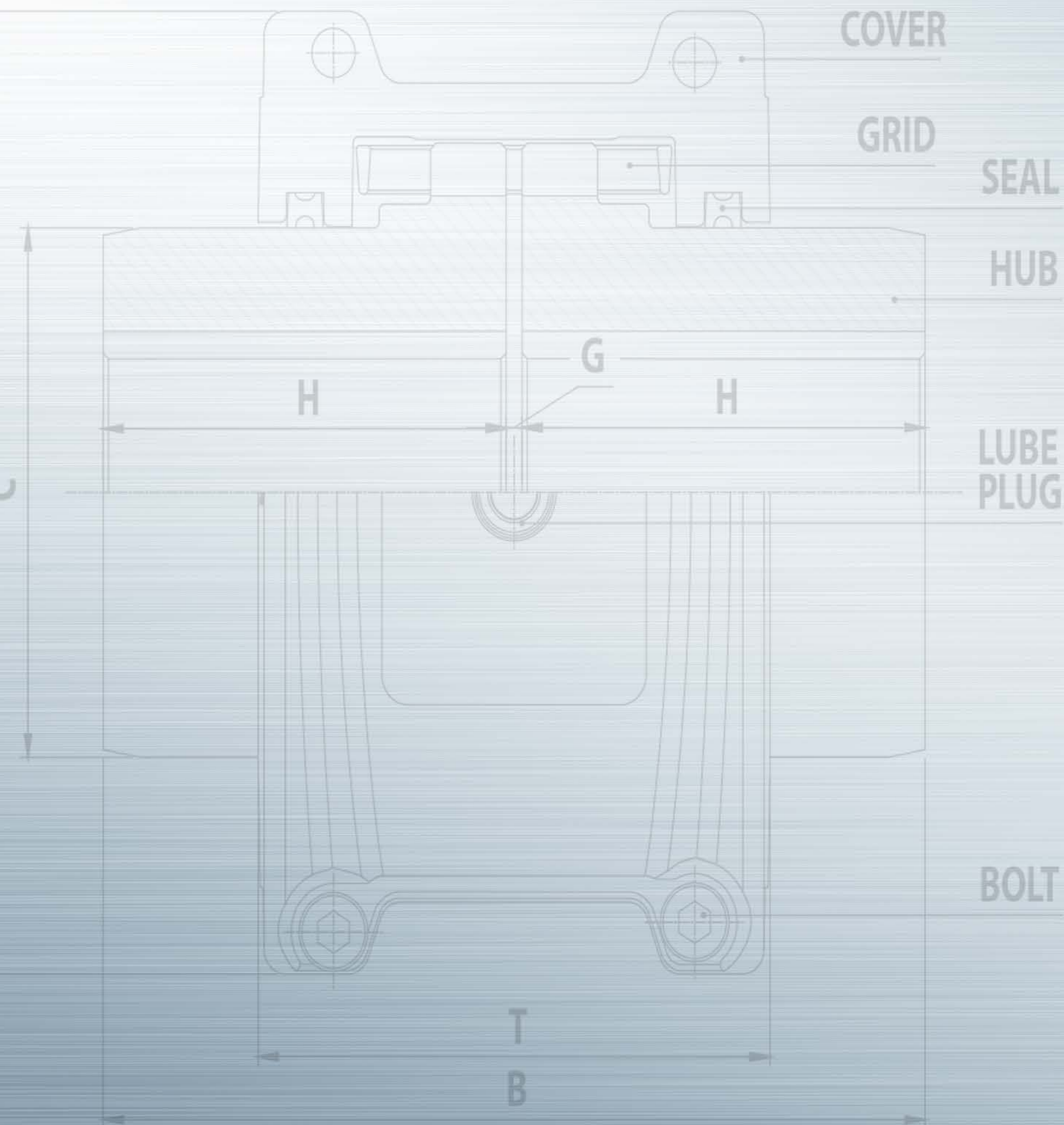
INDEX

CONVEYORS	
Apron, Assembly, Belt, Chain	1.5
Flight, Screw	2.0
Bucket	
Live Roll, Shaker and Reciprocation	3.5
CRANES AND HOIST	
Main Hoist	2.5
Skip Hoist	2.5
Slope	2.25
Bridge, Travel or Trolley	2.5
DYNAMOMETER	1.5
ELEVATORS	
Bucket, Centrifugal, Discharge	2.0
Freight or Passenger(Not Approved)	
Gravity discharge	2.0
ESCALATORS(Not Approved)	
EXCITER GENERATOR	1.75
EXTRUDER, PLASTIC	2.25
FANS	
Centrifugal	1.1
Cooling Tower	3.0
Forced Draft-Across the Line	
Start	2.0
Forced Draft Moto	
Driven thru fluid or electric slip clutch	1.5
Gas Recirculating	2.5
Induced Draft with damper	
control or blade cleaner	2.0
Induced Draft without controls	3.0
FEEDERS	
Apron, Belt, Disc, Screw	2.0
Reciprocating	3.5
GENERATORS	
Even Load	1.0
Hoist or Railway Service	2.0
Welder Load	3.0
HAMMERMULL	2.5
LAUNDRY WASHER OR TUMBLER	3.0
LINE SHAFTS	
Any processing Machinery	2.0
MACHINE TOOLS	
Auxiliary and Traverse Drive	1.5
Bending Roll, Notching press, Puch press, Planer, Plate Reversing	
Main Drive	2.5
	2.0
MAN LIFTS(Not Approved)	
METAL FORMING MACHINES	
Draw Bench Carriage and Main Drive	3.0
Extruder	3.0
Forming Machine and Forming Mills	3.0
Slitters	1.5
Wire Drawing or Flattening	2.5
Wire Winder	2.25
Coilers and Uncoilers	2.25
MIXERS(see Agitators)	
Concrete	2.5
Muller	2.5
PRESS, PRINTING	2.25
PUG MILL	2.5
PULVERIZERS	
Hammermill and Hog	2.5
Roller	2.0
PUMPS	
Centrifugal	
Constant Speed	1.1
Frequent Speed Changes under Load	2.0
Descaking, with accumulators	2.0
Gear, Rotary, or Vane	1.75
Reciprocating	
1 cylinder, single or double acting	3.0
2 cylinder, single acting	3.0
2 cylinder, double acting	3.0
3 or more cylinders	3.0
SCREENS	
Air Washing	1.5
Grizzly	3.0
Rotary Coal or Sand	2.0
Vibrating	3.5
Water	1.5
SKI TOWS & LIFTS(Not Approved)	
STEERING GEAR	1.5
STOKER	1.5
TUMBLING BARREL	2.5
WINCH, MANEUVERING	1.5
Dredge, Marine	2.5
WINDLASS	2.0
WOODWORKING MACHINERY	1.5
WORK LIFT PLATFORMS(Not Approved)	

Aphabetical listing of industries AGGREGATE PROCESSING, CEMENT MINING KILNS:	Service Factor
TUBE, ROD AND BALL MILLS	
Direct or on L.S. shaft of Reducer, with final drive;	
Machined Spur Gears	
Single Helical or Herringbone Gears	3.0
Conveyors, Feeders, Screens, Elevators, See General Listing	2.25
Crushers, Ore or Stone	
Dryer, Rotary	
Grizzly	3.5
Hammermill or Hog	2.0
Tumbling Mill or Barrel	3.0
	2.5
	2.5
BREWING AND DISTILLING	
Bottle and Can	
Filling Machines	1.5
Brew Kettle	1.5
Cookers, Continuous Duty	1.75
Lauter Tub	2.25
Mash Tub	1.75
Scale Hopper, Frequent Peaks	2.25
CLAY WORKING INDUSTRY	
Brick Press, Briquette Machine, clay Working Machine, Plug Mill	2.25
DREDGES	
Cabel Reel	2.25
Conveyors	1.5
Cutter Head, jig Drive	3.0
Maneuvering Winch	2.5
Pumps(uniform load)	2.0
Screen Drive Stacker	2.5
Utility Winch	2.5
FOOD INDUSTRY	
BEET SLICER	2.5
Bottling, Can Filling Machine	
Cereal Cooker	1.75
Dough Mixer, Meat Grinder	2.5
LUMBER	
Band Resaw	2.0
Circular Resaw, Cut-off	2.5
Edger, Head Rig, Hog	3.0
Gang Saw(Reciprocating)	3.0
Log Haul	3.0
Planer	2.5
Rolls, Non-Reversing	2.0
Rolls, Reversing	3.0
Sawdust Conveyor	1.75
Slab Conveyor	2.5
Sorting Table	2.0
Trimmer	2.25
MERAL ROLLING MILLS	
Coilers(Up or Down) Cold Mills only	2.25
Coilers(Up or Down) Hot Mills only	2.5
Coke Plants	
Pusher Ram Drive	3.5
Door Opener	3.0
Pusher or Larry Car	
Traction Drive	4.0
Cold Mills	
Strip Mills	
TemperMills	
Cooling Beds	
Drawbench	2.0
Feed Rolls-Blooming Mills	3.0
Furnace Pushers	4.0
Hot and Cold Saws	3.0
Hot Mills	
Strup or Sheet Mills	
Reversing Blooming or Slabbing Mills	
Edger Drives	
Ingot Cars	
Manipulators	4.0
Merchant Mills	
Mill Tables	
Roughing Breakdown Mills	4.0
Hot bed or Transfer, non-reversing	2.25
Runout, reversing	4.0
Runout, non-reversing, non-plugging	3.0
Reel Drives	2.25
Rod Mills	
Screwdown	3.0
Seamless Tube Mills	
Piecer	4.0
Thrust Block	3.0

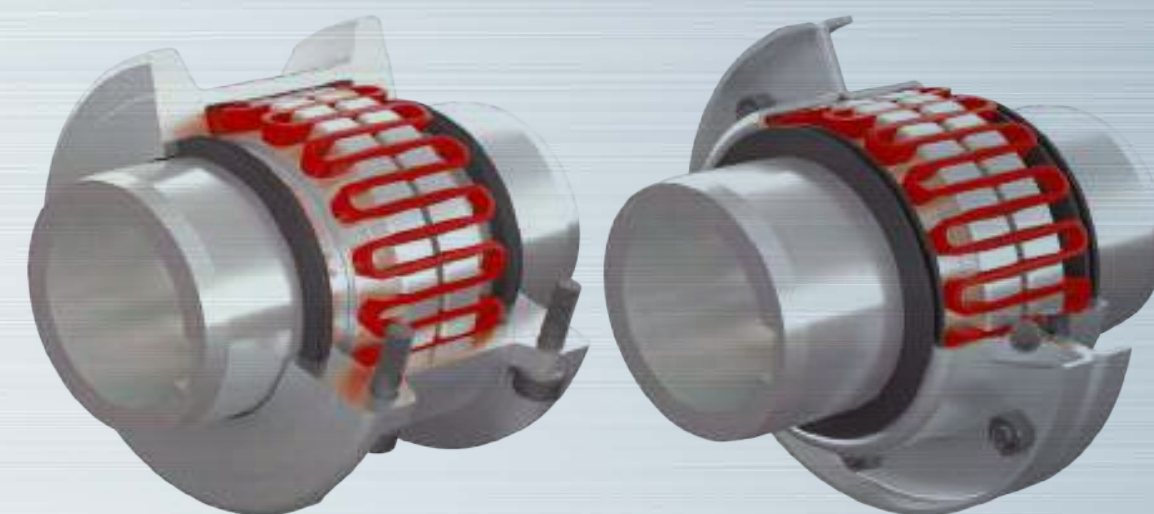
Tube Conveyor Rolls	3.0
Reeler	3.0
Kick Out	3.0
Sideguards	4.0
Skelp Mills	
Slitters, Steel Mill only	2.25
Soaking Pit Cover Drives	
Lift	1.75
Travel	2.5
Straighteners	2.5
Unscramblers(Billet Bundle Busters)	3.0
Wire Drawing Machinery	2.25
OIL INDUSTRY	
Chiller	2.75
Oilwell Pumping(not over 15% peak torque)	3.0
Raraffin filter Press	
Rotary Kiln	2.0
	3.0
PAPER MILLS	
Barker Auxiliary, Hydraulic	3.0
Barker, Mechanical	3.0
Barking Drum	
L.S Shaft of reducer with	
final drive - Helical	
or Herringbone Gear	3.0
Machined Spur Gear	3.5
Cast Tooth Spur Gear	4.0
Beater & Pulper	2.5
Bleachers, Coasters	1.75
Calender & Super Calender	2.5
Chipper	4.0
Converting Machine	1.75
Couch	2.25
Cutter, Felt Whipper	3.0
Cylinder, Dryer	2.25
Felt Strecher	2.0
Fourdrinier	2.25
Jordon	3.0
Log Haul	3.0
Line Shaft	2.0
Press	2.25
Pulp Grinder	2.25
Reel, Rewinder, Winder	
Stock Chest, Washer	2.0
Thickener	
Stock Pumps, Centrifugal	
Constant Speed	1.5
Frequent Speed Changes	
Under Load	1.75
Suctiuon Roll	2.5
RUBBER INDUSTRY	
CALENDER	3.0
Cracker Plasticator	3.5
Extruder	2.25
Intensive or Banbury Mixer	3.5
Mixing Mill, Refiner or sheeter	
One or two in line	3.5
Three or four in line	2.25
Five or more in line	3.5
Tire Building Machine	
Tire & Tube Press Opener(peak Torque)	1.5
Tuber Strainer, Pelletizer	2.25
Warming Mill	
One or two Mills in line	3.0
Three or more Mills in line	2.25
Washer	3.5
SEWAGE DISPOSAL EQUIPMENT	
Bar Screen, Chemical Feeders,	
Collectors, Dewatering Screen, Grit Collector	
	1.5
SUGAR INDUSTRY	
Cane Carrier & Leveler	2.5
Cane Knife & Crusher	3.0
Mill Stands, Turbine Driven with all helical or herringbone gear	
Electric Drive or Steam Engine	2.0
Drive with Helical,	
Herringbone, or Spur Gears with any Prime Mover	
	2.25
TEXTILE INDUSTRY	
BATCHER	1.75
Calender, Card Machine	2.0
Cloth Finishing Machine	2.25
Dry Can Loom	2.0
Dyeing Machinery	1.75
Knitting Machine	2.2
Mangle, Napper, Soaper	1.75
Spinner, Tenter Frame,	2.0
Winder	
Reducer	2.0





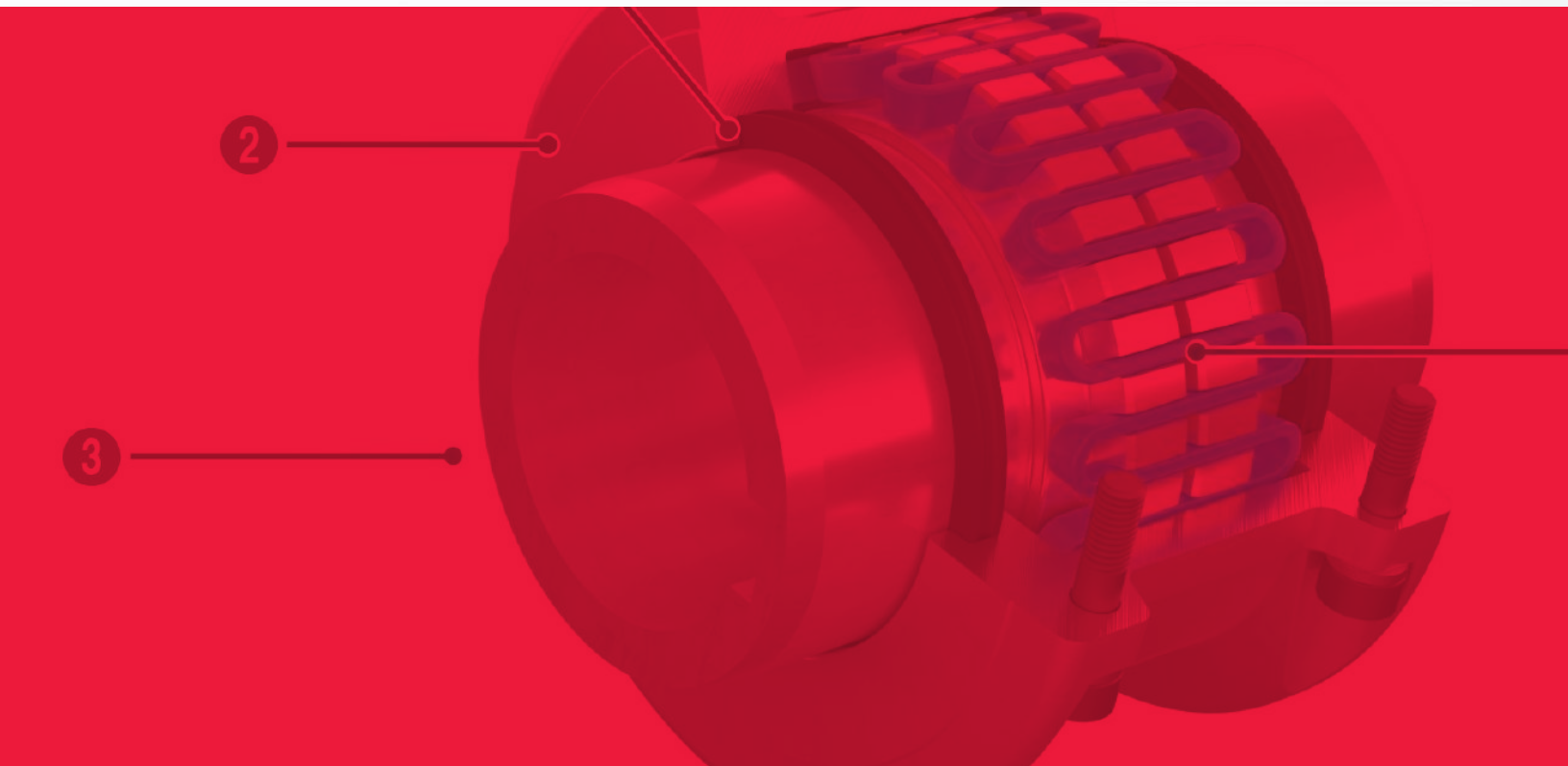
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GRID COUPLINGS



GRID COUPLING INDEX

- Vibration absorption
- Shock load absorption
- Parts and their names
- Installation
- Disassembly
- Alignment information



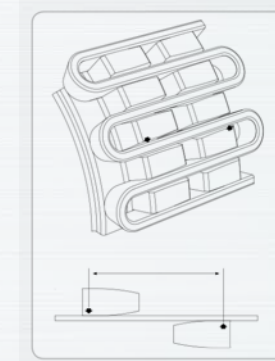
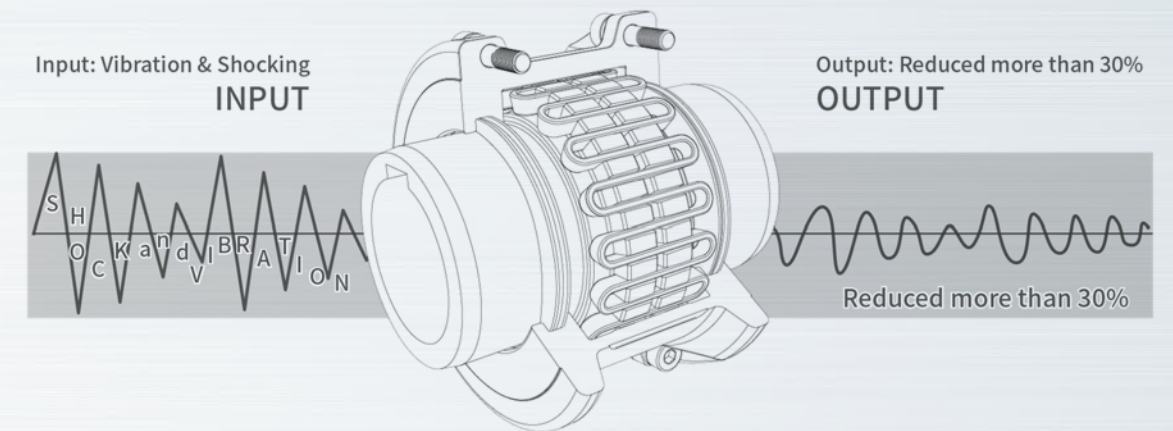
AEC GRID COUPLINGS

AEC GRID COUPLINGS can carry considerable torques despite their compact sizes. This type of all-metal flexible coupling is mainly used to reduce the transmission of vibration and shock loading, while allowing both angular and parallel misalignments within their operational limits.

When a heavy overload happens, or an excessive misalignment occurs, the grid and its cover fail, acting as a safety device. This way, the transmission of torque is interrupted, and other costlier components of the drive are protected against damage.

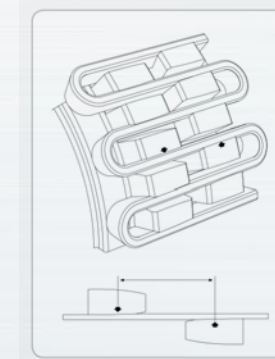
Compared to others, this type of coupling has a simpler installation and repair. Besides, grid couplings have higher reliability. Therefore, they require less and shorter maintenance inspections.

Absorption of vibration



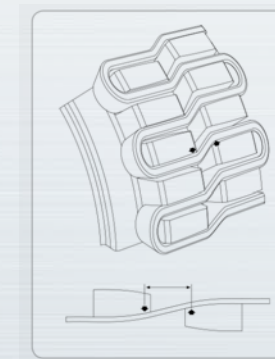
Condition of Grid under light load

Each grid segment works as a long straight beam supported by the root side surfaces of the hub teeth. Coupling torsional rigidity is low, so light loads twist it gently.



Condition of Grid under normal load

Each grid segment works as a slightly flexed beam supported by the lower half side surfaces of the hub teeth. Coupling torsional rigidity is high, so normal loads twist it gently.

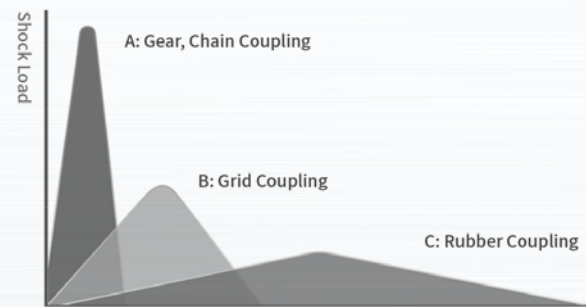


Condition of grid under shock or start load

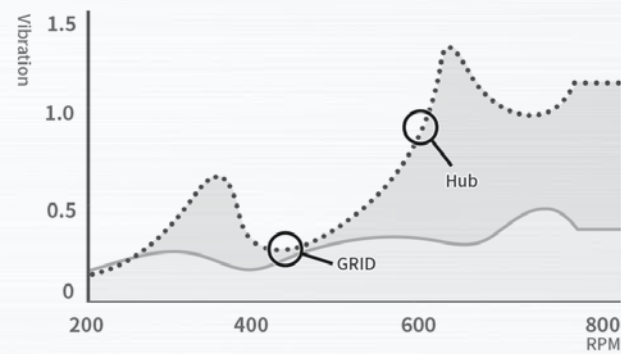
Each grid segment works as a very short flexed beam supported by the full side surfaces of the hub teeth. Coupling torsional rigidity is very high, so peak loads twist it gently.

Vibration/ Shock load absorption

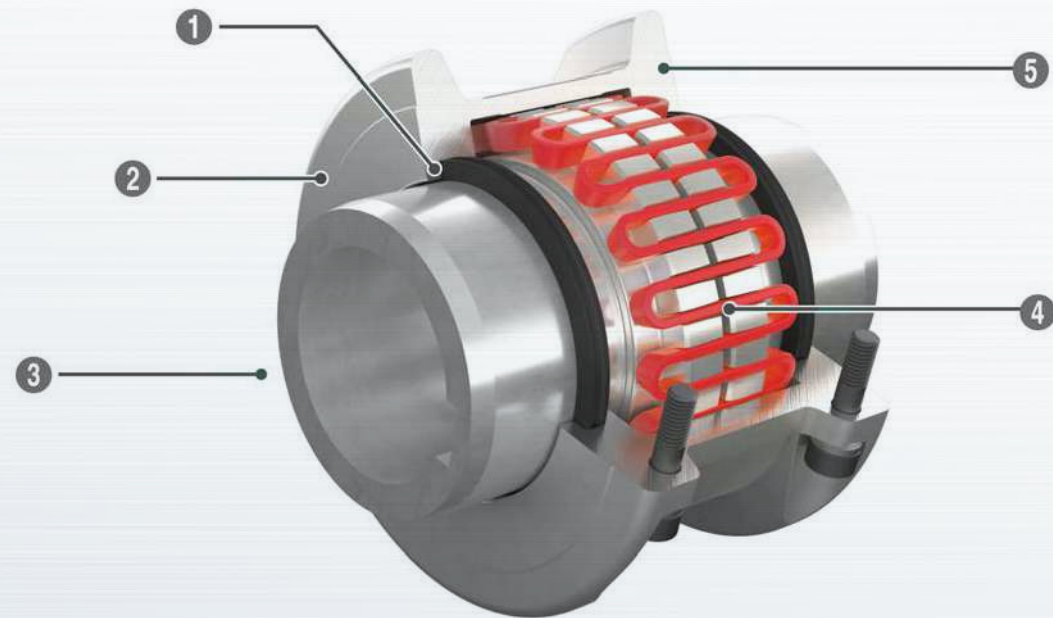
*AEC grid coupling excellent performance demonstration.



*AEC grid coupling excellent performance demonstration.



Parts



Individual Parts

1 Oil seal(NBR)

2 Cover(ALDC12)

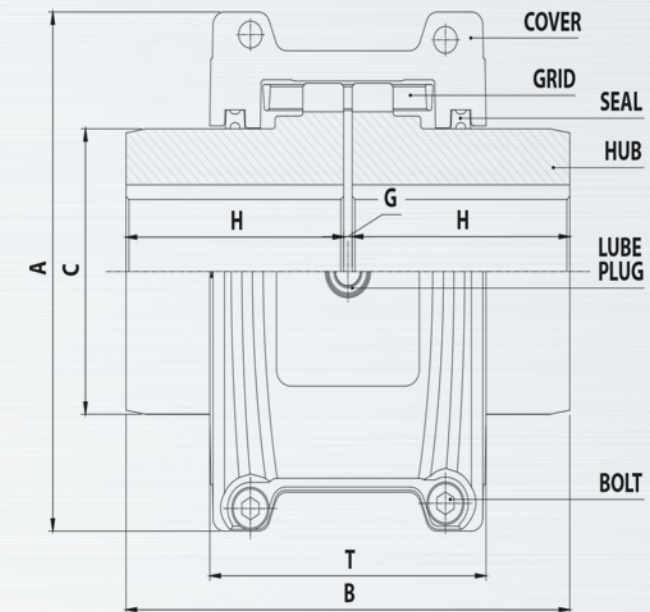
3 Hub(S45C)

4 Grid(SWRH62B)

5 Gasket(UG)

Dimensions

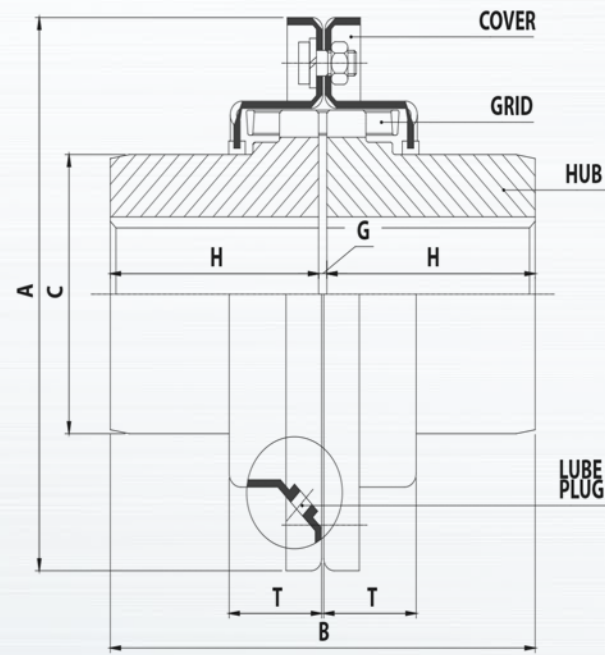
Type T10 (Horizontal Split Aluminum Cover)



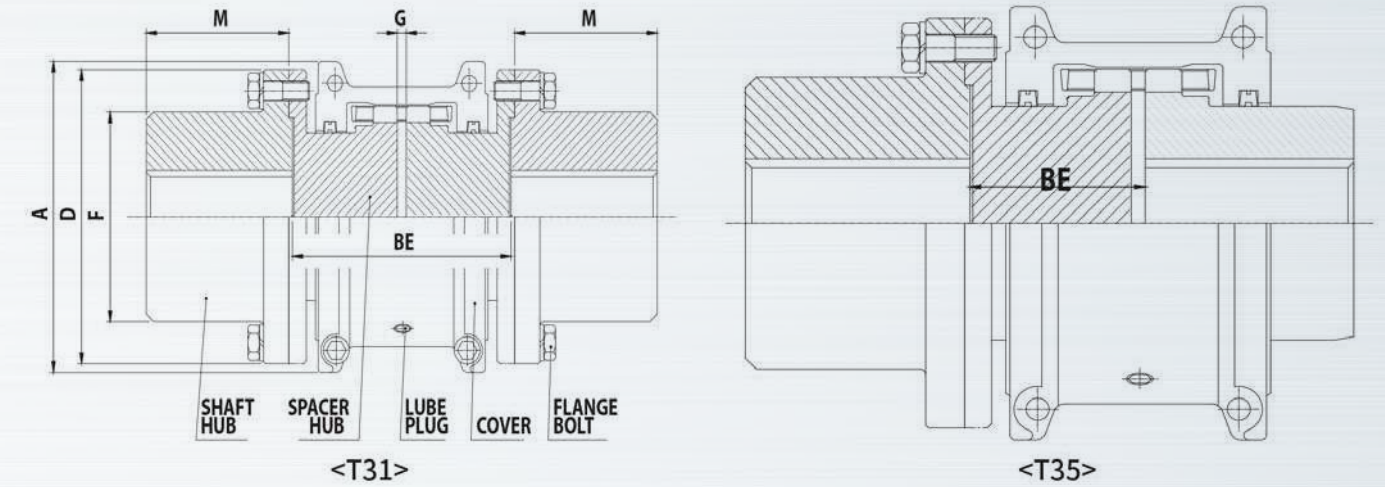
SIZE	MAX. SPEED(RPM)	BASIC TORQUE (Nm)	BORE DIA(mm)		DIMENSIONS(mm)					GAP			CPLG WT(kg)	LUBE WT(kg)
			MAX.	MIN.	A	B	C	H	T	MIN.	NORMAL	MAX.		
1020	4,500	52	30	12.7	101.6	98.00	39.70	47.50	66.58	1.5	3.0	4.5	1.62	0.03
1030	4,500	149	36	12.7	111.01	98.00	49.20	47.50	68.30	1.5	3.0	4.5	2.24	0.03
1040	4,500	249	44	12.7	117.5	104.60	57.10	50.80	69.60	1.5	3.0	4.5	3.03	0.05
1050	4,500	435	50	12.7	138.0	123.60	66.70	60.30	81.10	1.5	3.0	4.5	5.02	0.05
1060	4,350	684	57	19.1	150.5	130.00	76.20	63.50	93.78	1.5	3.0	4.5	6.92	0.09
1070	4,125	994	65	19.1	161.9	155.40	87.30	76.20	96.74	1.5	3.0	4.5	9.86	0.11
1080	3,600	2,051	79	27.0	194.0	180.80	104.80	88.90	115.47	1.5	3.0	4.5	16.98	0.17
1090	3,600	3,728	95	27.0	213.0	199.80	123.7	98.40	122.56	1.5	3.0	6.0	24.82	0.25
1100	2,400	6,276	107	41.3	250.0	245.70	142.00	120.60	155.05	1.5	4.5	6.0	40.88	0.43
1110	2,250	9,321	117	41.3	270.0	258.50	160.30	127.00	161.03	1.5	4.5	9.5	52.34	0.51
1120	2,025	13,671	136	60.3	308.0	304.40	179.40	149.20	191.39	1.5	6.0	9.5	80.44	0.73
1130	1,800	19,885	165	66.7	346.0	329.80	217.50	161.90	195.09	1.5	6.0	12.5	118.48	0.91
1140	1,650	28,585	184	66.7	384.0	371.60	254.00	182.80	200.89	1.5	6.0	12.5	176.98	1.13
1150	1,500	39,771	203	108.0	453.1	371.80	269.00	183.00	106.90	1.5	6.0	12.5	234.00	1.95
1160	1,350	55,927	228	120.7	501.4	402.20	305.00	198.00	114.30	1.5	6.0	12.5	317.00	2.81
1170	1,225	74,570	279	133.4	566.4	437.80	356.00	216.00	119.40	1.5	6.0	12.5	448.00	3.49
1180	1,100	103,381	311	152.4	629.9	483.80	394.00	239.00	130.00	1.5	6.0	12.5	619.00	3.76
1190	1,050	136,712	339	152.4	675.6	524.20	437.00	259.00	135.00	1.5	6.0	12.5	776.00	4.40
1200	900	186,425	361	177.8	756.9	564.80	498.00	279.00	145.00	1.5	6.0	12.5	1,057.00	5.62

Dimensions

Type T20 (Vertical Steel Cover)



T31, T35

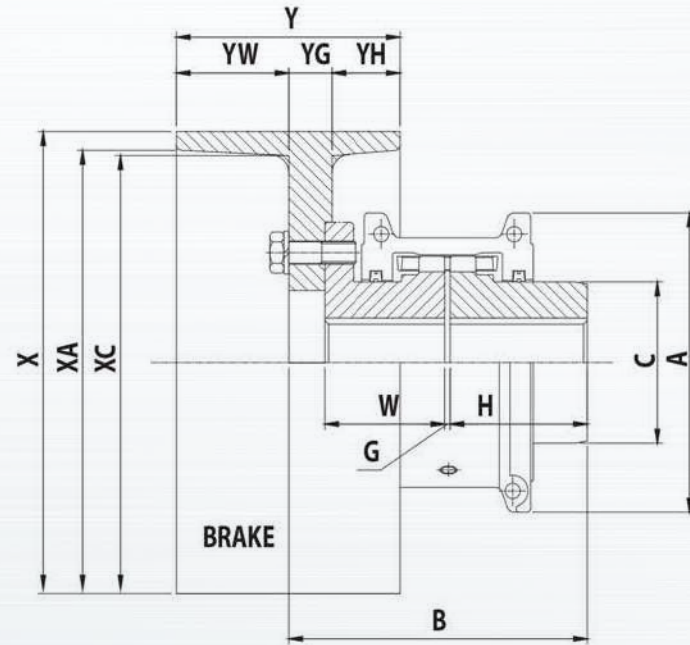


SIZE	MAX. SPEED(RPM)	BASIC TORQUE (Nm)	BORE DIA(mm)		DIMENSIONS(mm)					GAP			CPLG WT(kg)	LUBE WT(kg)
			MAX.	MIN.	A	B	C	H	T	MIN.	NORMAL	MAX.		
1020	6,000	52	30	12.7	111.1	98.0	39.7	47.5	24.2	1.5	3	4.5	1.62	0.03
1030	6,000	149	36	12.7	120.7	98.0	49.2	47.5	25.0	1.5	3	4.5	2.24	0.03
1040	6,000	249	44	12.7	128.5	104.6	57.1	50.8	25.7	1.5	3	4.5	3.01	0.05
1050	6,000	435	50	12.7	147.6	123.6	66.7	60.3	31.2	1.5	3	4.5	4.9	0.05
1060	6,000	684	57	19.1	162.0	130.0	76.2	63.5	32.2	1.5	3	4.5	6.54	0.09
1070	5,500	994	65	19.1	173.0	155.4	87.5	76.2	33.7	1.5	3	4.5	9.38	0.11
1080	4,750	2,051	79	27.0	200.0	180.8	104.8	88.9	44.2	1.5	3	4.5	16	0.17
1090	4,000	3,728	95	27.0	231.8	199.8	123.8	98.4	47.7	1.5	3	6.0	23.62	0.25
1100	3,250	6,276	107	41.3	266.7	245.7	142.0	120.6	60.0	1.5	4.5	9.5	40.08	0.43
1110	3,000	9,321	117	41.3	285.8	258.5	160.3	127.0	64.2	1.5	4.5	9.5	51.7	0.51
1120	2,700	13,671	136	60.3	319.0	304.4	179.4	149.2	73.4	1.5	6	12.5	78.28	0.73
1130	2,400	19,885	165	66.7	377.8	329.8	217.5	161.9	75.1	1.5	6	12.5	114.76	0.91
1140	2,200	28,585	184	66.7	416.0	371.8	254.0	182.8	78.2	1.5	6	12.5	174.5	1.13
1150	2,000	39,771	203	108.0	479.0	371.8	269.2	182.9	106.9	1.5	6	12.5	237.92	1.95
1160	1,750	55,927	228	120.7	532.0	402.2	304.8	198.1	114.3	1.5	6	12.5	322.76	2.81
1170	1,600	74,570	279	133.4	590.0	437.8	355.6	215.9	119.4	1.5	6	12.5	448.8	3.49
1180	1,400	103,381	311	152.4	630.0	483.6	393.7	238.8	130.0	1.5	6	12.5	591	3.76
1190	1,300	136,712	339	152.4	685.0	524.2	436.9	259.1	135.0	1.5	6	12.5	761	4.40
1200	1,100	186,425	361	177.8	737.0	564.8	497.8	279.4	145.0	1.5	6	12.5	1021	5.62

SIZE	MAX SPEED (RPM)	BASIC TORQUE (Nm)	BORE DIA		DIMENSIONS (MM)								FLANGE BOLT NO.	LUBE WT (KG)	
			MAX	MIN	A	BE (AS)		BE (FS)		D	F	M			G
						MIN	MAX	MIN	MAX						
1020	3,600	52	36	12.7	101.6	89	203	45	102	86	52	35	5	4	0.03
1030	3,600	149	44	12.7	111.01	89	216	45	109	94	59	41	5	8	0.03
1040	3,600	249	57	12.7	117.5	89	216	45	109	113	78	54	5	8	0.05
1050	3,600	435	64	12.7	138.0	112	216	57	109	126	87	60	5	8	0.05
1060	3,600	684	79	19.1	150.5	127	330	64	166	145	103	73	5	8	0.09
1070	3,600	994	83	19.1	161.9	127	330	64	166	153	109	79	5	12	0.11
1080	3,600	2,151	95	27	194.0	184	406	93	204	178	122	89	5	12	0.17
1090	3,600	3,728	108	27	213.0	184	406	93	204	210	142	102	5	12	0.25
1100	2,400	6,276	127	38.1	250.0	203	40	103	205	251	171	90	6.5	12	0.43
1110	2,250	9,321	149	50.8	270.0	210	406	106	205	277	196	104	6.5	12	0.51
1120	2,025	13,671	165	63.5	308.0	246	406	125	205	319	225	119	9.5	12	0.73
1130	1,800	19,885	178	76.2	346.0	257	406	130	205	346	238	135	9.5	12	0.91
1140	1,650	28,585	203	88.9	384.0	267	406	135	205	386	266	152	9.5	12	1.13
1150	1,500	39,771	254	101.6	453.1	345	371	175	187	425	334	173	9.5	14	1.95
1160	1,350	55,927	279	114.3	501.4	356	406	180	205	457	366	186	9.5	14	2.81
1170	1,225	74,570	330	127	566.4	384	445	194	224	527	425	220	9.5	16	3.49
1180	1,100	103,381	330	101.6	629.9	400	490	202	247	591	451	249	9.5	16	3.76
1190	1,050	136,712	362	114.3	675.6	411	530	207	267	660	508	276	9.5	18	4.4
1200	900	186,425	381	127	756.9	445	575	224	289	711	530	305	9.5	18	5.62

Dimensions

BW



SIZE	Brake wheel Size(mm)		Max. Brake Rating of CPLG(Nm)	Bore Dia (mm) Max.	Min.	DIMENSIONS(mm)										Lube wt (kg)
	X	Y				A	C	H	XA	XC	YH	YG	YW	G		
1020	-	-	10	30	12.7	102	39.6	48	-	-	-	-	-	3	0.03	
1030	-	-	35	36	12.7	111	49	48	-	-	-	-	-	3	0.03	
1040	160	80	65	44	12.7	117	57	51	145	140	28	12	40	3	0.05	
1050	200	100	118	50	12.7	138	66	60	184	178	33	17	50	3	0.05	
1060	200	100	208	57	19.1	151	76	63	184	178	33	17	50	3	0.09	
1070	250	125	331	68	19.1	162	87	76	230	224	40.5	22	62.5	3	0.11	
1080	315	160	637	82	27	194	105	89	292	285	57	23	80	3	0.17	
1090	355	180	1084	95	27	213	124	98	330	320	64	26	90	3	0.25	
1100	400	200	1898	107	41.3	251	142	121	374	362	72	28	100	5	0.43	
1110	450	224	2846	117	41.3	270	160	127	422	410	80	32	112	5	0.51	
1120	500	250	4337	136	60.3	308	179	149	462	445	90	35	125	6	0.73	
1130	560	280	6491	165	66.7	346	218	162	516	495	95	45	140	6	0.91	
1140	560	280	8810	184	66.7	384	253	184	516	495	95	45	140	6	1.13	

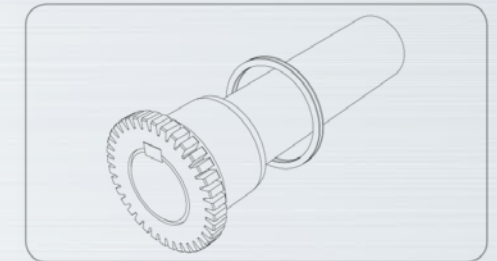
* If you need PBW type, First determine the size of brake of your coupling and the 'B', 'W' according to above dimension. For further information, please contact us.

Installation

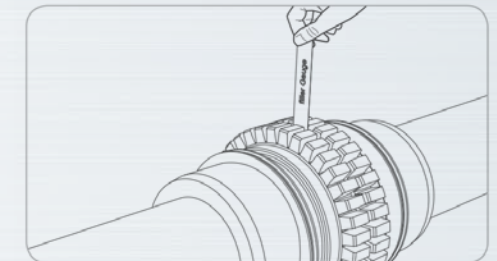
The operation and life of AEC GRID COUPLING may be highly influenced by how it is installed and used. To successfully operate and use it without trouble, it must be installed and used in accordance with the provided manual. Only standard tools are required for installation: a wrench, a straight edge ruler, and a feeler or dial gauge.

Details for installation

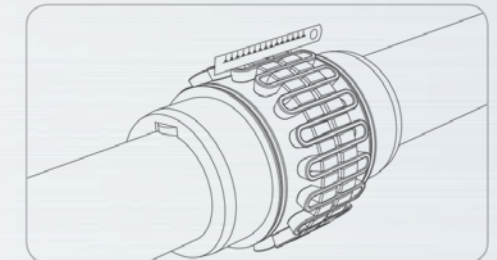
1 Clean all parts with cleansing oil, assemble the Oil Seal and insert hub.



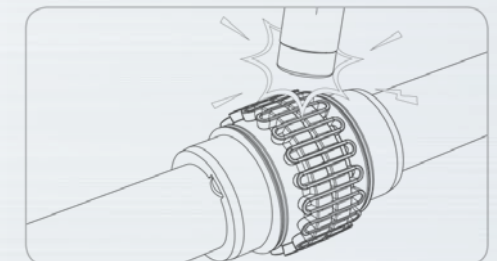
2 Insert clearance gauges to adjust the clearances and angular errors of four circumferences.



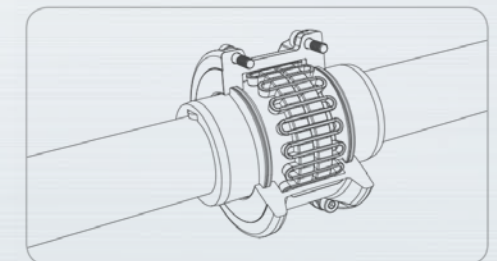
3 Adjust the parallel errors at four points spaced 90 degrees around the coupling circumference using a straight edge ruler, and adjust errors for the shaft centers more accurately using a dial gauge.



4 Fill the groove on the teeth of the HUB with Grease, ensure that the ends of the Grid sections face the same direction, and then insert it tapping with a rubber hammer.



5 Apply enough Grease to the grid and place the oil seal where it fits well into the groove of the cover. Insert gasket and assemble the cover to ensure that match marks inside the latter are on the same side.



Disassembly

When disassembling the coupling, alternate a screwdriver to lift the both ends of the grid ring from the grid section.

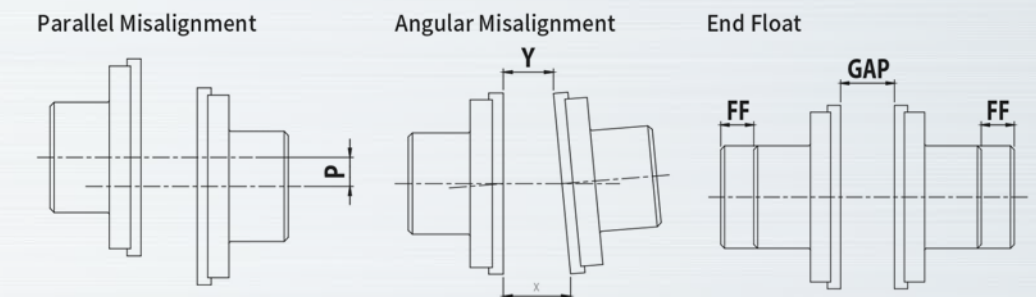
Periodic maintenance

The maintenance should be done once a year according to the following procedure.

- 1 Check the alignment of the shaft, if the alignment is off, re-install to align again.
- 2 Ensure that all fasteners are tightened for torque.
- 3 Check the conditions of oil seal and gasket. Any minimal of grease, the parts must be replaced regardless of the periodic maintenance.
- 4 After removing the cover, conduct a visual inspection and replace any parts that need replacement, apply grease again and assemble with the new gasket and oils seal.

Alignment guidelines

Accurate alignment enables couplings and associated machineries to maximize the life and to minimize the maintenance, in particular the life of the couplings influenced by the powerload, the speed at which is operated and the injection of lubricating oil. The values listed on the following table are indicators for maximizing the coupling's life and can be applied when they are based on the allowable RMP for each size. Keep the specified clearance, use genuine parts and assemble properly.



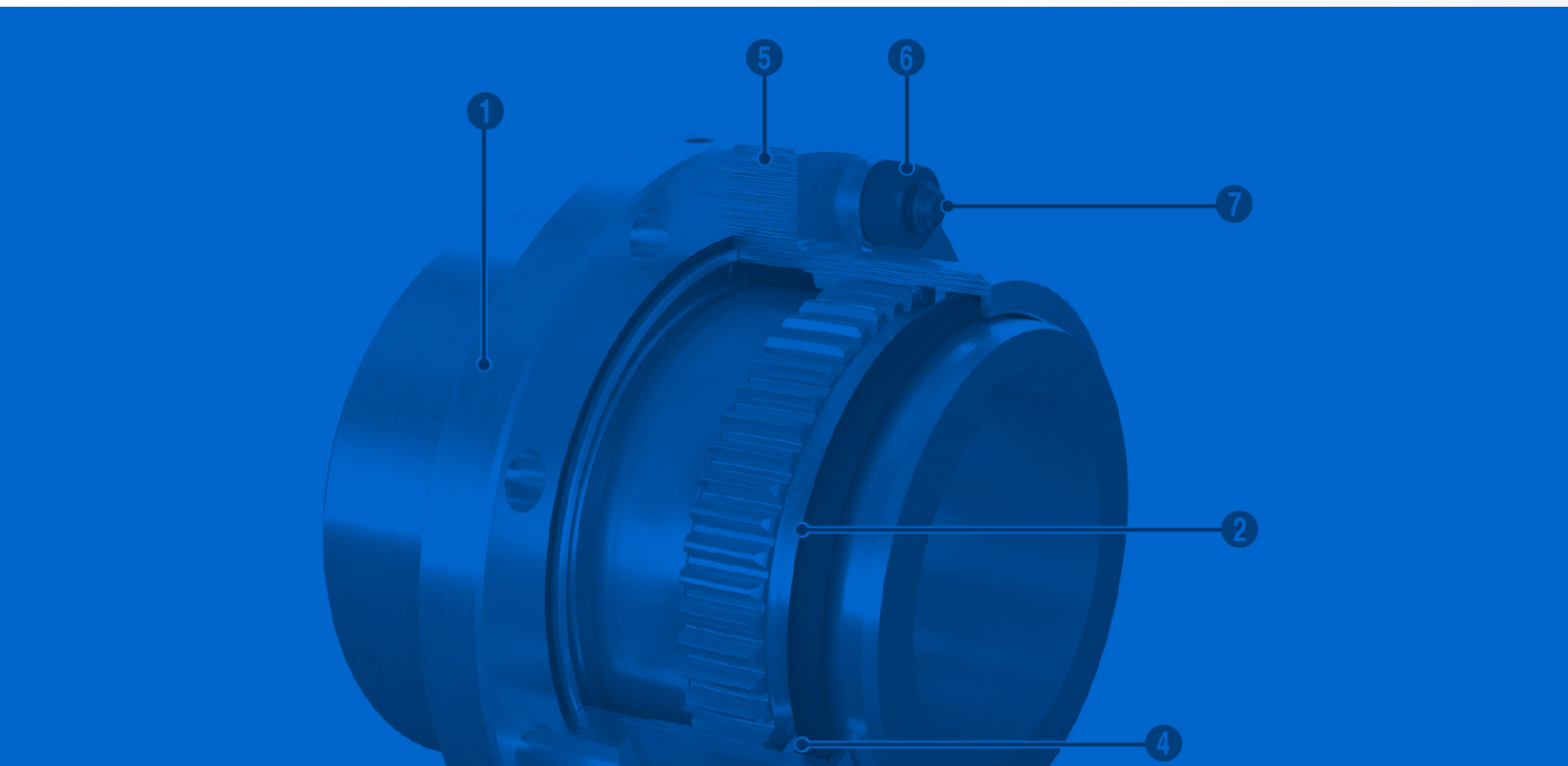
Misalignment Capacity

SIZE	Recommended Installation		Operating		Fastener Tightening Torque values(Nm)
	Parallel Offset-P Max(mm)	Angular (X-Y) Max (mm)	Parallel Offset-P Max(mm)	Angular (X-Y) Max (mm)	
1020	0.15	0.08	0.30	0.25	11.30
1030	0.15	0.08	0.30	0.30	11.30
1040	0.15	0.08	0.30	0.33	11.30
1050	0.20	0.10	0.41	0.41	22.60
1060	0.20	0.13	0.41	0.46	22.60
1070	0.20	0.13	0.41	0.51	22.60
1080	0.20	0.15	0.41	0.61	22.60
1090	0.20	0.18	0.41	0.71	22.60
1100	0.25	0.20	0.51	0.84	35.00
1110	0.25	0.23	0.51	0.91	35.00
1120	0.28	0.25	0.56	1.02	73.00
1130	0.28	0.30	0.56	1.19	73.00
1140	0.28	0.33	0.56	1.35	73.00
1150	0.28	0.41	0.60	1.57	
1160	0.30	0.46	0.60	1.78	
1170	0.30	0.51	0.60	2.01	
1180	0.38	0.56	0.76	2.26	
1190	0.38	0.61	0.76	2.46	
1200	0.38	0.69	0.76	2.72	
1210	0.46	0.74	0.91	3.00	
1220	0.46	0.81	0.91	3.28	
1230	0.46	0.89	0.97	3.61	
1240	0.48	0.97	0.97	3.91	
1250	0.51	1.07	1.02	4.29	

Puller Holes



SIZE	B.C.D (mm)	Tap Size	SIZE	B.C.D(mm)	Tap Size
1150	227.5	M20 x P2.5 x 40	1210	497	M36 x P4.0 x 45
1160	260	M20 x P2.5 x 40	1220	541	M36 x P4.0 x 45
1170	306	M24 x P3 x 50	1230	586	M36 x P4.0 x 45
1180	341	M30 x P3.5 x 60	1240	633	M36 x P4.0 x 45
1190	373	M30 x P3.5 x 60	1250	690	M36 x P4.0 x 45
1200	410	M30 x P3.5 x 60	1260	749	M36 x P4.0 x 45



AEC GEAR COUPLINGS

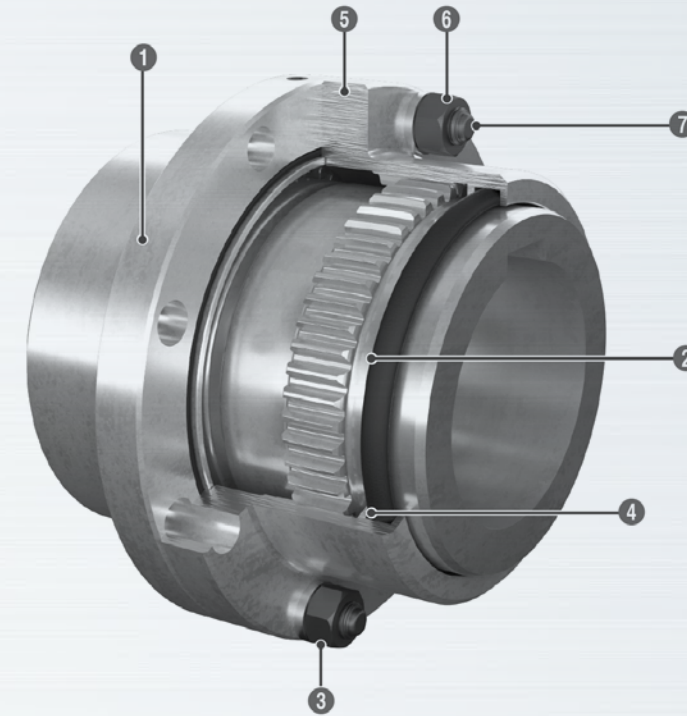
AEC GEAR COUPLINGS can carry considerable torques despite their compact sizes. The inner intermediate gear and the hub gear engage each other to transmit the load. This type of all-metal flexible coupling has minimum power losses.

The power is transmitted in this coupling by point contact, with very little surface involved. This can absorb all kinds of misalignment between shafts: angular, axial and small parallel misalignment in a double compact unit plus larger parallel misalignment in a double unit with long intermediate shaft.

Gear couplings may transmit medium, big and very big torques while operating from under 100 1/min up to 8000 1/min without problems if they are properly lubricated.

Currently, AEC GEAR COUPLING manufactures according to AGMA, the de facto international standard, and under JIS, the Japanese Standard. Besides, we may adapt our standard couplings to fit the special needs of our customers.

Parts



Individual Parts

- 1 Sleeve (A+B): S45C

- 2 Flex Hub: S45C

- 3 Reamer Bolt: S45C-H

- 4 O-ring: NBR

- 5 O-ring: NBR

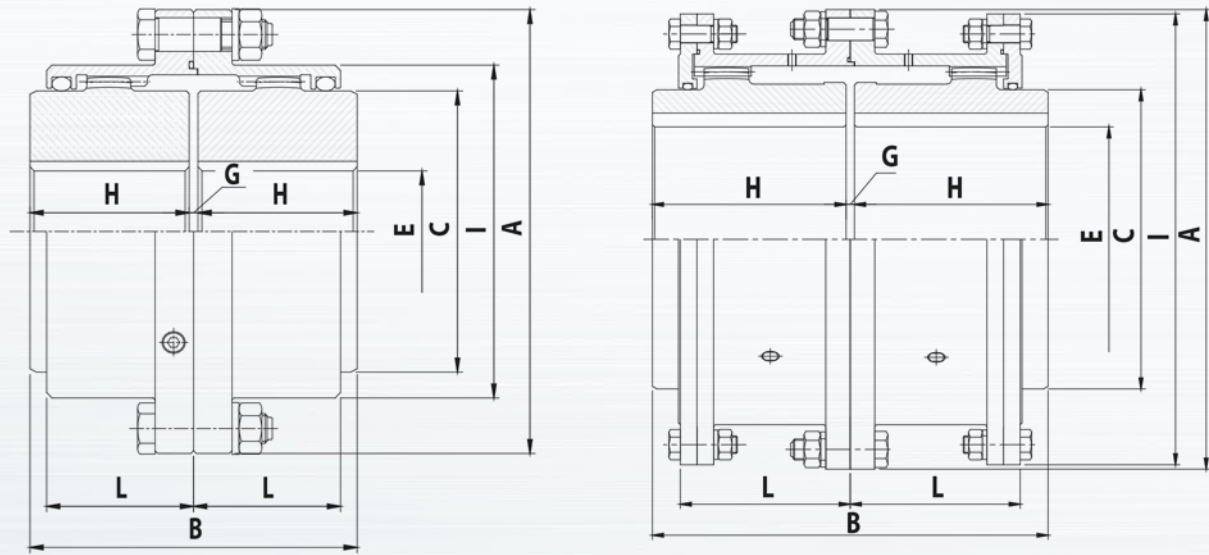
- 6 Spring Washer: HSWR62B

- 7 Hex. Nut: SS41

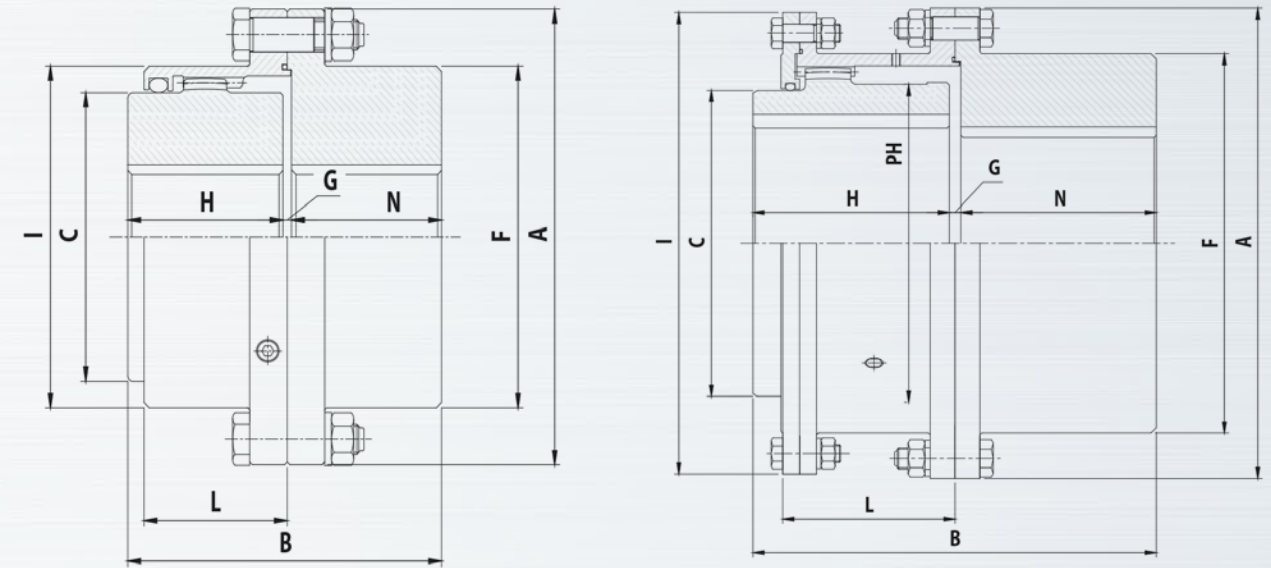
Dimensions

AGMA STANDARD

- PGD/PGDL (G20)



- PGS/PGSL (G52 Type)



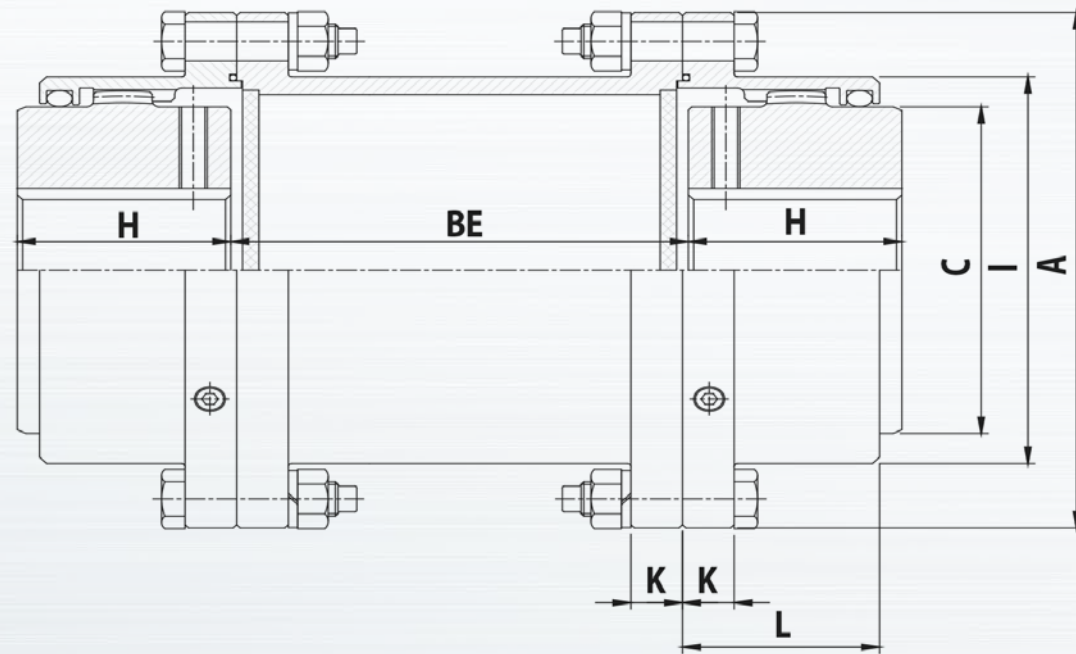
SIZE	MAX SPEED (RPM)	BASIC TORQUE (Nm)	BORE DIAM (MM)		DIMENSIONS (MM)								CPLG WEIGHT (kg)	LUBE WT (kg)
			MAX	MIN	A	B	C	H	I	L	G	PH		
1010PG20	8,000	1140	48	13	116	89	69	43	84	39	3		4.5	0.04
1015PG20	6,500	2350	60	19	152	101	86	49	105	48	3		9.1	0.07
1020PG20	5,600	4270	73	25	178	127	105	62	126	59	3		15.9	0.11
1025PG20	5,000	7470	92	32	213	159	131	77	155	72	5		29.5	0.23
1030PG20	4,400	12100	105	38	240	187	152	91	180	84	5		43.1	0.36
1035PG20	3,900	18500	124	51	279	218	178	106	211	98	6		68.0	0.54
1040PG20	3,600	30600	146	64	318	248	210	121	245	111	6		97.5	0.91
1045PG20	3,200	42000	165	76	346	278	235	135	274	123	8		136	1.04
1050PG20	2,900	56600	178	89	389	314	254	153	306	141	8		191	1.77
1055PG20	2,650	74,000	197	102	425	344	279	168	334	168	8		249	2.22
1060PG20	2,450	90,400	222	114	457	384	305	188	366	169	8		306	3.18
1070PG20	2,150	135,000	254	89	527	452	343	221	517	196	9.5	356	485	4.35
1080PG20	1,750	170,000	279	102	591	508	356	249	572	243	9.5	368	703	9.53
1090PG20	1,550	226,000	305	114	660	565	394	276	641	265	13	419	984	12.25
1000PG20	1,450	310,000	343	127	711	623	445	305	699	294	13	470	1,302	14.97
1100PG20	1,330	413,000	387	140	775	679	495	333	749	322	13	521	1,678	17.69
1200PG20	1,200	555,000	425	152	838	719	546	353	826	341	13	572	2,114	20.87

SIZE	MAX SPEED (RPM)	BASIC TORQUE (Nm)	BORE DIA			DIMENSIONS (MM)											WEIGHT (kg)	LUBE WT (kg)
			C	F	MIN	A	B	C	F	H	I	L	M	N	G	PH		
1010PG52	8,000	1,140	48	65	13	116.0	87	69	84	43	83.8	39	41.5	40	4	4.5	0.02	
1015PG52	6,500	2,350	60	75	19	152.0	99	86	105	49	105.2	48	47.5	46	4	9.1	0.04	
1020PG52	5,600	4,270	73	92	25	178.0	124	105	126	62	126.5	59	60.0	58	4	15.9	0.07	
1025PG52	5,000	7,470	92	111	32	213.0	156	131	155	77	154.9	72	76.5	74	5	29.5	0.12	
1030PG52	4,400	12,100	105	130	38	240.0	184	152	180	91	180.3	84	90.5	88	5	43.1	0.18	
1035PG52	3,900	18,500	124	149	51	279.0	214	178	211	106	211.3	98	105.0	102	6	68.0	0.27	
1040PG52	3,600	30,600	146	171	64	318.0	243	210	245	121	254.4	111	118.0	115	7	97.5	0.47	
1045PG52	3,200	42,000	165	194	77	346.0	274	235	274	135	274.1	123	135.0	131	8	136	0.57	
1050PG52	2,900	56,600	178	222	89	389.0	308	254	306	153	305.8	141	151.0	147	8	191	0.91	
1055PG52	2,650	74,000	197	248	102	425.0	349	279	334	168	334.3	158	177.0	173	8	249	1.13	
1060PG52	2,450	90,400	222	267	114	457.0	382	305	366	188	366.0	169	190.0	186	8	306	1.70	
1070PG52	2,150	135,000	254	305	89	527.0	454	343	425	221	424.9	196	226.5	220	13	485	2.27	
1080PG52	1,750	170,000	279	343	102	591.0	511	356	451.0	249	572.0	243	255.5	249	13	703	4.99	
1090PG52	1,550	226,000	305	381	114	660.0	566	394	508	276	641.0	265	283.0	276	14	984	6.35	
1000PG52	1,450	310,000	343	406	127	711.0	626	445	530.0	305	699.0	294	313	305	16	1,302	7.71	
1100PG52	1,330	413,000	387	445	140	775.0	682	495	584	333	749.0	322	341.0	333	16	1,678	9.07	
1200PG52	1,200	555,000	425	495	140	838.0	722	546	648.0	353	826.0	341	361	353	16	2,114	10.89	

Dimensions

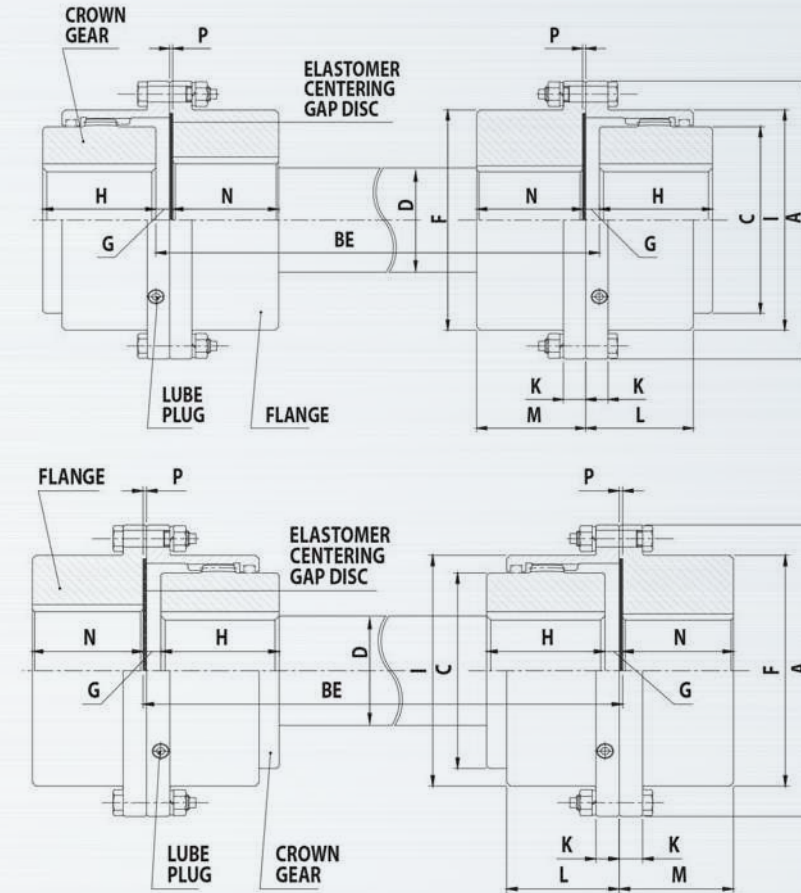
AGMA STANDARD

- PGDS (G32 Type Spacer Coupling Double Engagement)



SIZE	MAX SPEED (RPM)	BASIC TORQUE (Nm)	BORE DIA (MM)		BE		DIMENSIONING (MM)					CPLG WT (kg)	LUBE WT (kg)
			MAX	MIN	MAX	MIN	A	C	H	I	L		
1010PG32	7000	1140	48	13	83	311	116	69	43	84	39	6.8	0.04
1015PG32	5500	2350	60	19	83	311	152	86	49	105	48	13.6	0.07
1020PG32	4600	4270	73	25	83	311	178	105	62	126	59	20.4	0.11
1025PG32	4000	7470	92	32	95	311	213	131	77	155	72	38.6	0.23
1030PG32	3600	12100	105	38	95	311	240	152	91	180	84	54.4	0.36
1035PG32	3100	18500	124	51	120	311	279	178	106	211	98	88.5	0.54
1040PG32	2800	30600	146	64	120	311	318	210	121	245	111	122.5	0.91
1045PG32	2600	42000	165	76	120	311	346	235	135	274	123	165.6	1.04
1050PG32	2400	56600	178	89	146	311	389	254	153	306	141	238.1	1.77
1055PG32	2200	74,000	197	102	146	311	425	279	168	334	158	306.2	2.22
1060PG32	2100	90,400	222	114	146	311	457	305	188	366	169	358.3	3.18
1070PG32	1800	135,000	289	127	146	311	527	355	221	425	196	562.5	4.35

- PGF (G52 Type Floating Shafts)



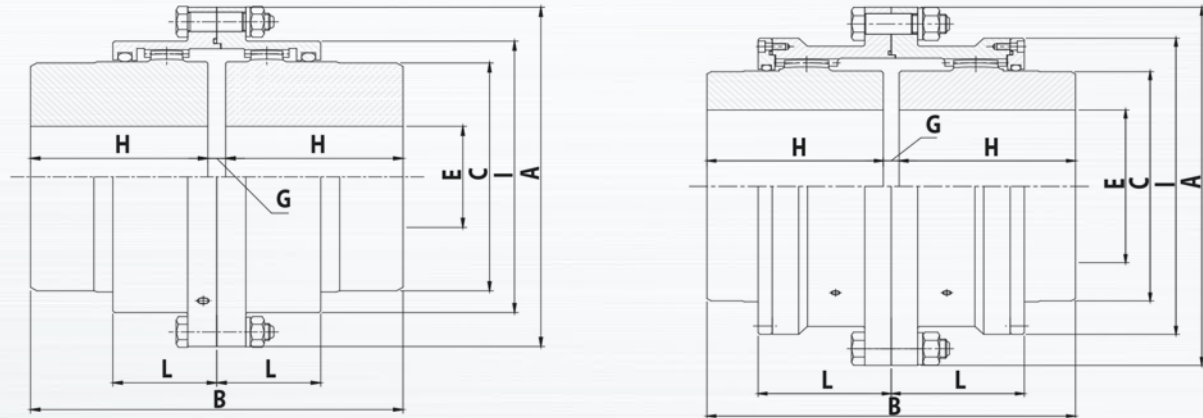
SIZE	MAX SPEED (RPM)	BASIC TORQUE (Nm)	SHAFT DIAM (MM)	BORE DIA (MM)		BE MIN		DIMENSIONING (MM)										CPLG WEIGHT (kg)	LUBE WT (kg)	
				C	F	GFS-R	GFS-O	A	C	F	I	H	L	M	N	P	G			
1010PG52F	8000	1140	50.80	48	60	13	92	133	115.9	69	83.8	83.8	43	39	41.5	40	2.5	4	4.5	0.02
1015PG52F	6500	2,350	76.20	60	75	19	105	159	152.4	86	105.2	105.2	49	48	47.5	46	2.5	4	9.1	0.04
1020PG52F	5600	4,270	95.25	73	92	25	129	197	177.8	105	126.5	126.5	62	59	60.0	58	2.5	4	15.9	0.07
1025PG52F	5000	7,470	95.25	92	111	32	162	241	212.7	131	155.0	155.0	77	72	76.5	74	2.5	5	27.2	0.12
1030PG52F	4400	12,100	127.00	105	130	38	189	279	240.0	152	180.0	180.0	91	84	90.5	88	2.5	5	43.1	0.18
1035PG52F	3900	18,500	146.05	124	149	51	219	324	279.0	178	211.0	211.0	106	98	105.0	102	2.5	5.5	61.2	0.27
1040PG52F	3600	30,600	165.10	146	171	64	248	419	317.5	210	254.4	254.4	121	111	118.0	115	4.1	7	99.8	0.47
1045PG52F	3200	42,000	203.20	165	194	76	281	508	346.0	235	274.1	274.1	135	123	135.0	131	4.1	8	136.1	0.57
1050PG52F	2900	56,600	203.20	178	222	89	316	533	389.0	254	305.8	305.8	153	141	151.0	147	5.1	8	195	0.91
1055PG52F	2650	74,000	203.20	197	248	102	367	572	425.0	279	334.3	334.3	168	158	177.0	173	5.1	8	263.1	1.13
1060PG52F	2450	90,400	217.42	222	267	114	397	597	457.0	305	366.0	366.0	188	169	190.0	186	6.6	8	324.3	1.7
1070PG52F	2150	135,000	242.82	254	305	89	470	673	527.0	343	424.9	424.9	221	196	226.5	220	8.4	13	508	2.27

Note: C - Crown Hub
F - Flange Hub

Dimensions

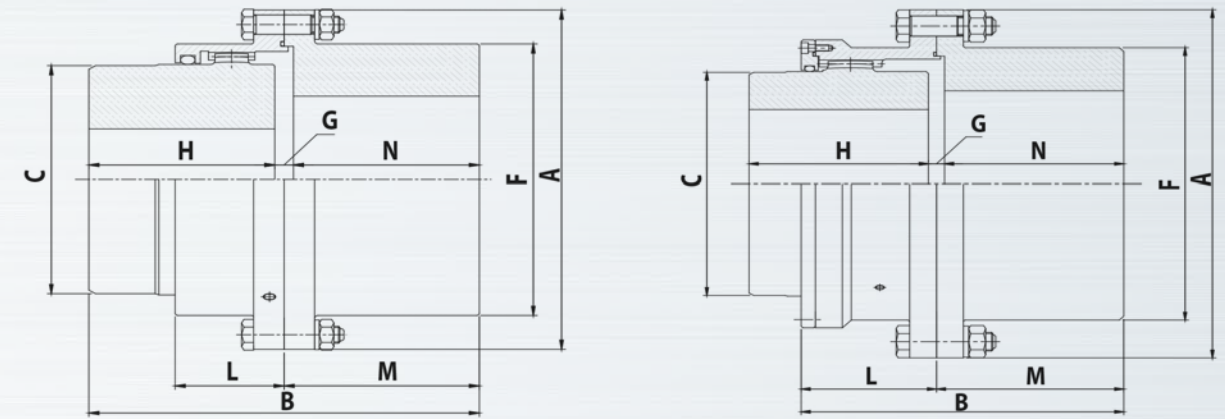
JIS STANDARD

- Type PSS (Gear Double), PCC (Gear Double Large)



SIZE	Max Speed (RPM)	Basic Torque (Nm)	BORE DIA		Dimensions(mm)								WEIGHT (kg)	LUBE WT (kg)	PSS-H (Nm)
			Max.	Min.	A	B	C	H	I	L	G				
PSSI00	3,600	254	25	16	100	88	46	40	67	34	8	3	0.03	802	
PSSI12	3,600	617	40	16	112	108	58	50	79	40	8	5	0.04	1,420	
PSSI25	3,600	1,072	50	31	125	134	70	63	92	43	8	7	0.05	2,410	
PSSI40	3,600	1,486	56	31	140	150	80	71	107	47	8	9	0.07	3,540	
PSSI60	3,600	2,250	63	31	160	170	95	80	120	52	10	14	0.09	5,090	
PSSI80	3,600	3,372	71	45	180	190	105	90	134	56	10	19	0.12	7,730	
PSS200	3,600	4,913	80	45	200	210	120	100	149	61	10	26	0.15	12,700	
PSS224	3,080	6,987	90	51	224	236	145	112	174	65	12	38	0.25	17,800	
PSS250	2,650	9,665	100	51	250	262	165	125	200	74	12	56	0.35	24,200	
PSS280	2,340	16,555	125	51	280	294	190	140	224	82	14	83	0.48	32,300	
PSS315	1,980	31,653	160	112	315	356	225	170	260	98	16	135	0.77	49,700	
PSS355	1,800	39,706	180	125	355	396	250	190	288	108	16	184	0.94	65,800	
PSS400	1,570	54,737	200	140	400	418	285	200	329	114	18	261	1.36	92,400	
PCC450	1,540	74,705	200	140	450	418	290	200	372	151	18	304	1.79	174,000	
PCC500	1,320	117,186	236	170	500	494	335	236	425	168	22	453	2.64	261,000	
PCC560	1,170	166,784	265	190	560	552	385	265	475	187	22	664	3.23	408,000	
PCC630	990	260,501	280	200	630	658	455	315	548	213	28	1,020	4.93	581,000	
PCC710	870	376,696	355	250	710	738	510	355	622	242	28	1,460	6.63	789,000	
PCC800	780	537,311	400	280	800	832	570	400	690	267	32	2,090	9.35	1,110,000	
PCC900	840	771,115	475	315	900	932	670	450	792	295	32	3,030	12.63	1,510,000	
PCCI000	760	1,189,219	510	355	1,000	1,040	720	500	858	322	40	4,120	13.75	1,970,000	
PCCI120	682	1,598,179	600	400	1,120	1,160	840	560	990	360	40	5,920	15.45	2,450,000	
PCCI250	610	2,120,000	710	500	1,250	1,460	960	710	1,126	399	40	9,410	18.25	3,250,000	

- Type PSE (Gear Double), PCE (Gear Double Large)

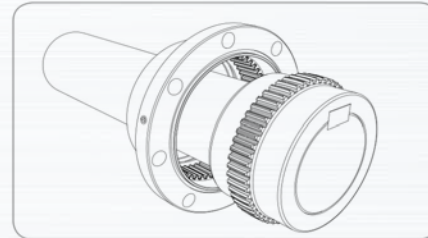


SIZE	Max Speed (RPM)	Basic Torque (Nm)	BORE DIA			Dimensions(mm)								WEIGHT (kg)	LUBE WT (kg)	PSS-H (Nm)
			Max.	Min.	A	B	C	F	H	L	M	G				
													C			
PSEI00	3,600	254	28	40	16	100	88	46	67	40	34	44	8	3	0.03	802
PSEI12	3,600	562	40	50	16	112	108	58	79	50	40	54	8	5	0.04	1,420
PSEI25	3,600	996	50	56	31	125	134	70	92	63	43	67	8	7	0.05	2,410
PSEI40	3,600	1,434	56	63	31	140	150	80	107	71	47	75	8	9	0.07	3,540
PSEI60	3,600	2,194	63	75	31	160	170	95	120	80	52	85	10	14	0.09	5,090
PSEI80	3,600	3,369	71	80	45	180	190	105	134	90	56	95	10	19	0.12	7,730
PSE200	3,600	4,812	80	95	45	200	210	120	149	100	61	105	10	26	0.15	12,700
PSE224	3,080	6,990	90	105	51	224	236	145	174	112	65	118	12	38	0.25	17,800
PSE250	2,650	9,427	100	125	51	250	262	165	200	125	74	131	12	56	0.35	24,200
PSE280	2,340	16,327	125	150	51	280	294	190	224	140	82	147	14	83	0.48	32,300
PSE315	1,980	25,735	16	180	112	315	356	225	260	170	98	178	16	135	0.77	49,700
PSE355	1,800	38,749	180	200	125	355	396	250	288	190	108	198	16	184	0.94	65,800
PSE400	1,570	54,439	200	236	140	400	418	285	329	200	114	209	18	261	1.36	92,400
PCE450	1,540	73,696	200	224	140	450	418	290	352	200	151	209	18	304	1.79	174,000
PCE500	1,320	115,934	236	265	170	500	494	335	404	236	168	245	22	453	2.64	261,000
PCE560	1,170	166,306	265	305	190	560	552	385	460	265	187	276	22	664	3.23	408,000
PCE630	990	259,700	315	355	224	630	658	455	530	315	213	329	28	1,020	4.93	581,000
PCE710	870	372,400	355	400	250	710	738	510	590	355	242	369	28	1,460	6.63	789,000
PCE800	780	533,414	400	450	280	800	832	570	670	400	267	416	32	2,090	9.35	1,110,000
PCE900	840	803,600	475	510	315	900	932	670	792	400	295	466	32	3,030	12.63	1,510,000
PCEI000	760	1,107,400	510	570	355	1,000	1,040	720	858	450	322	520	40	4,130	13.75	1,970,000
PCEI120	682	1,617,000	600	640	400	1,120	1,160	840	990	500	360	580	40	5,940	15.45	2,450,000
PCEI250	610	2,077,600	710	800	500	1,250	1,460	960	1,126	560	399	730	40	9,820	18.25	3,250,000

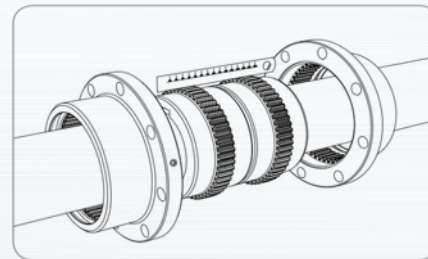
| Installation

Mounting procedures (PGD60 or smaller)

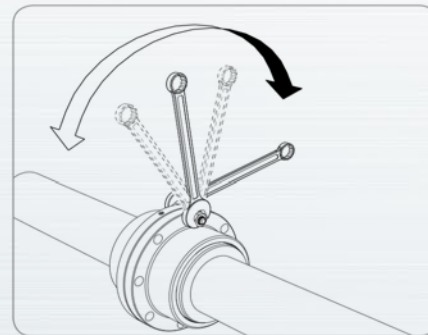
- 1** Select how to mount the crown hub after machining the inner diameter correctly. (Shrinkage/Key fitting)
Clean all components, apply grease on the teeth and O-ring then install the O-ring.



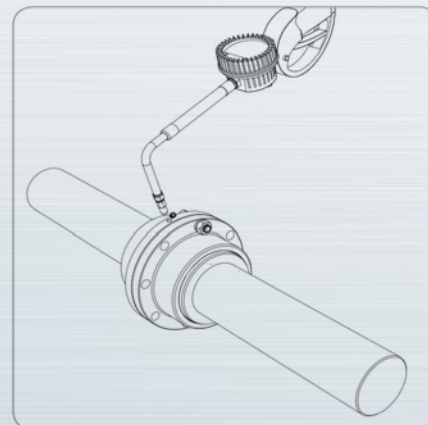
- 2** Insert the internal sleeve into the shafts and assemble the crown hub on both shafts.
Adjust allowable gap and the angular error.



- 3** As shown in the figure, adjust the parallel error every 90 degrees in circumference using a straight edge ruler so it does not exceed the error limit specified in the catalog. Then set the shaft center correctly using the dial gauge.
Insert the O-ring between the internal sleeves and apply grease on crown gear, then fasten the bolts to ensure the inlets are located at 90 degrees.



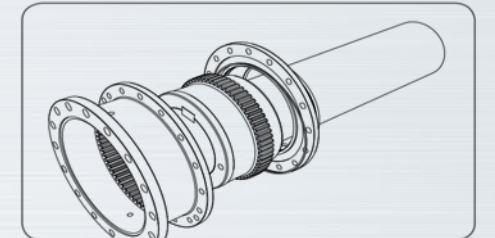
- 4** Open the lubrication inlet, and put grease using a lubrication gun until it overflows, then fasten the inlet's bolt.



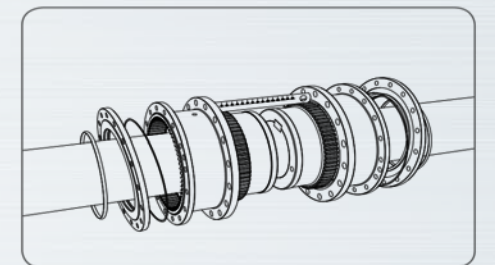
| Installation

Mounting procedure (PGDL70 or larger)

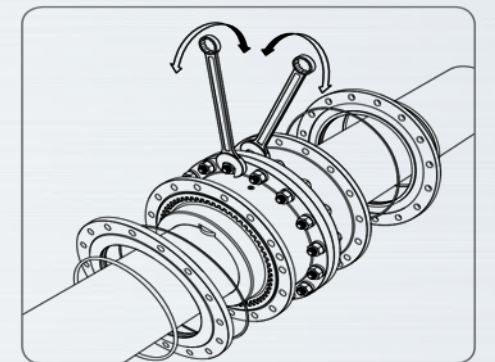
- 1** Select how to mount the crown hub after machining the inner diameter correctly. (Shrinkage/Key fitting)
Clean all components, apply grease on the teeth and O-ring then install the O-ring.



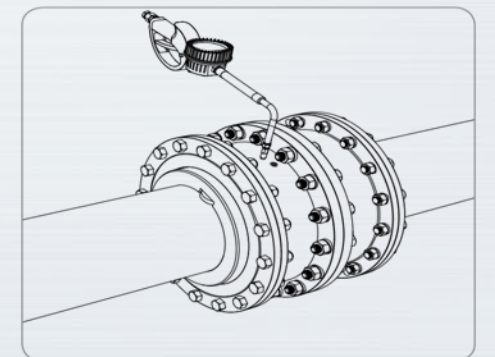
- 2** Insert the side cover into the shafts, assemble the crown hub, then assemble the O-ring and Internal sleeve.
Adjust allowable gap and the angular error.



- 3** As shown in the figure, adjust the parallel error every 90 degrees in circumference using a straight edge ruler so it does not exceed the error limit specified in the catalog. Then set the shaft center correctly using the dial gauge.
Ensure the lubricating oil inlet in the internal sleeve located at 90 degrees and fasten the bolt evenly as shown in the figure. The lubricating oil inlet inside the cover must perpendicular to the lubricating oil inlet in internal sleeve when assembling the side cover.



- 4** Open the lubrication inlet, and put grease using a lubrication gun until it overflows, then fasten the inlet's bolt.

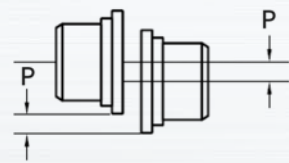


Alignment information

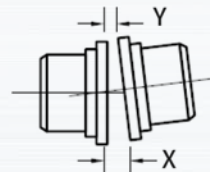
Accurate alignment enables couplings and associated machineries to maximize the life and to minimize the maintenance, in particular the life of the couplings influenced by the power-load, the speed at which is operated and the injection of lubricating oil. The values listed on the following table are indicators for maximizing the coupling's life and can be applied when they are based on the allowable RMP for each size. Keep the specified clearance, use genuine parts and assemble properly.

Each value is also related to the coupling's installation and the environment

Parallel Misalignment



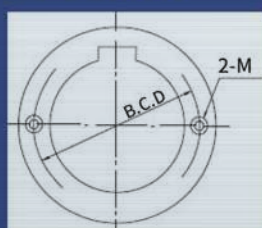
Angular Misalignment



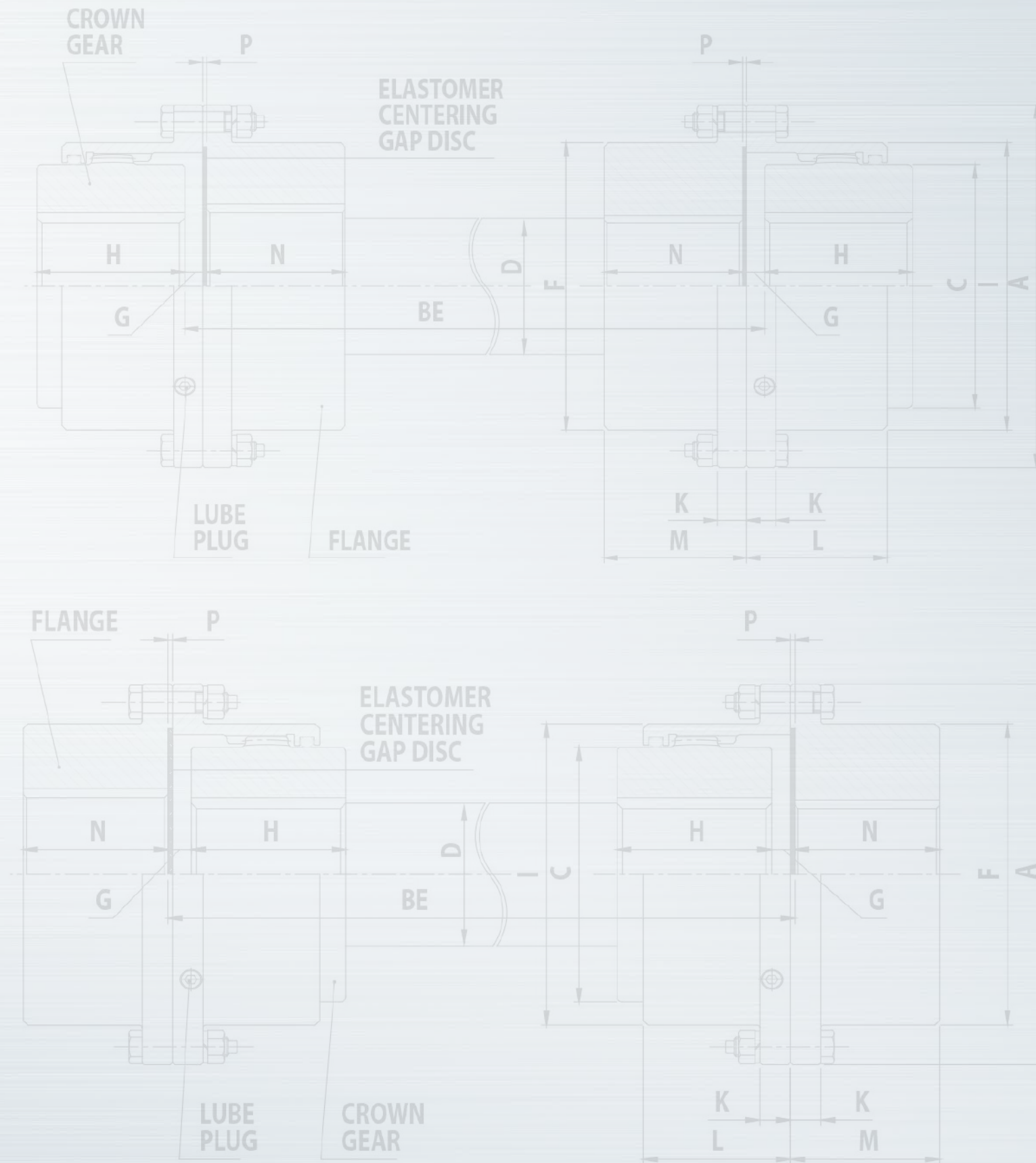
Misalignment Capacity

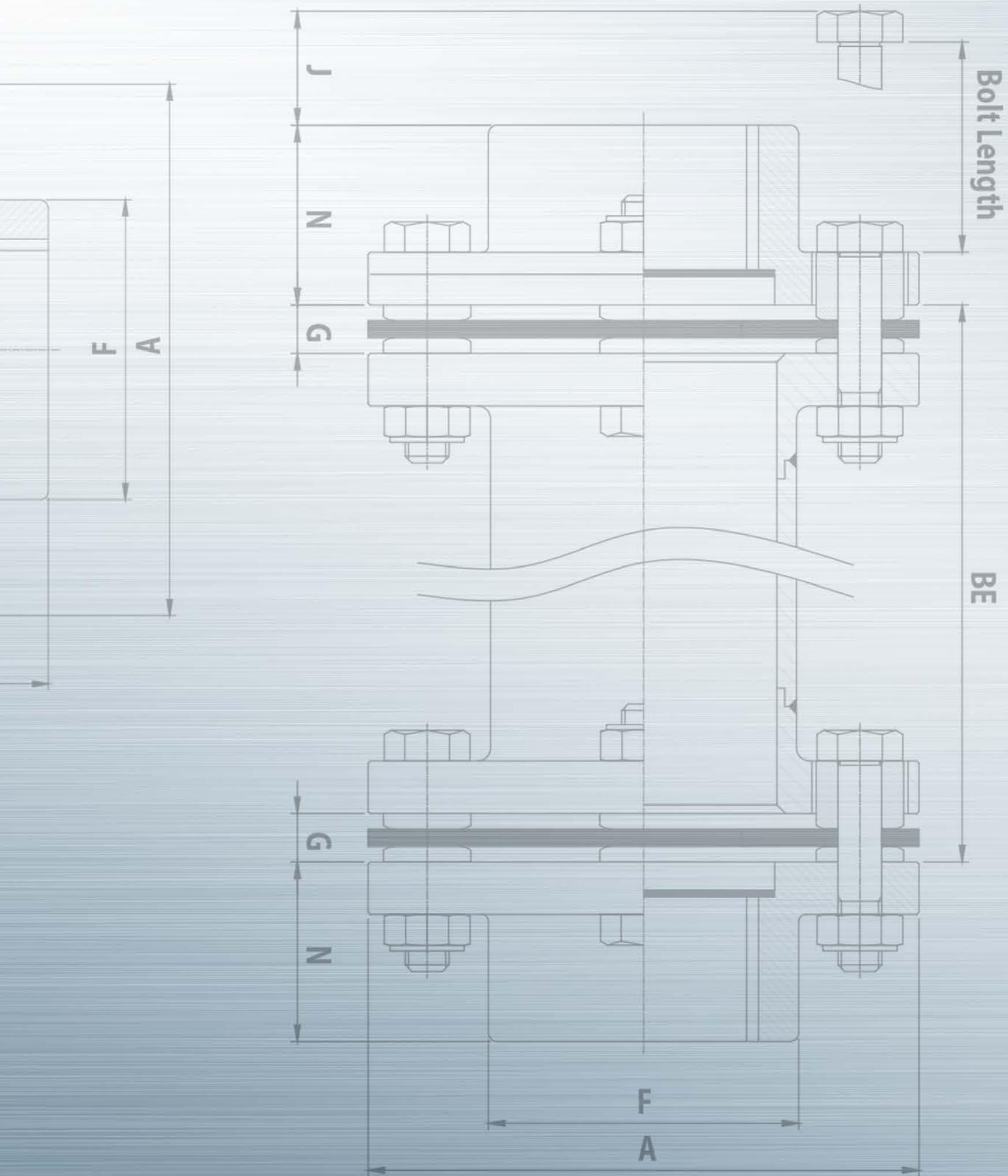
SIZE	Recommended Installation		Operating		Fastener Tightening Torque values(Nm)
	Parallel Offset-P Max(mm)	Angular (X-Y) Max (mm)	Parallel Offset-P Max(mm)	Angular (X-Y) Max (mm)	
1010PGD	0.05	0.15	0.66	1.80	12
1015PGD	0.08	0.18	0.86	2.26	42
1020PGD	0.08	0.23	1.02	2.74	102
1025PGD	0.10	0.28	1.27	3.43	203
1030PGD	0.13	0.33	1.52	3.99	203
1035PGD	0.15	0.38	1.83	4.65	339
1040PGD	0.18	0.46	2.13	5.49	339
1045PGD	0.20	0.51	2.39	6.15	339
1050PGD	0.23	0.56	2.72	6.65	339
1055PGD	0.28	0.61	3.12	7.32	339
1060PGD	0.28	0.66	3.35	9.98	339
1070PGD	0.33	0.79	3.94	9.32	339
1080PGD	0.41	0.81	2.46	4.83	-
1090PGD	0.43	0.91	2.64	5.49	-
1100PGD	0.48	1.02	2.97	6.15	-
1110PGD	0.56	1.14	3.30	6.81	-
1120PGD	0.58	1.24	3.51	7.49	-

Puller Holes



SIZE	B.C.D (mm)	Tap Size	SIZE	B.C.D (mm)	Tap Size
20 PGDL	89	M8	55 PGDL	238	M20
25 PGDL	112	M10	60 PGDL	268	M20
30 PGDL	128	M10	70 PGDL	305	M24
35 PGDL	152	M12	80 PGDL	318	M24
40 PGDL	181	M16	90 PGDL	356	M30
45 PGDL	200	M16	100 PGDL	394	M30
50 PGDL	216	M20	110 PGDL	426	M30
			120 PGDL	498	M30





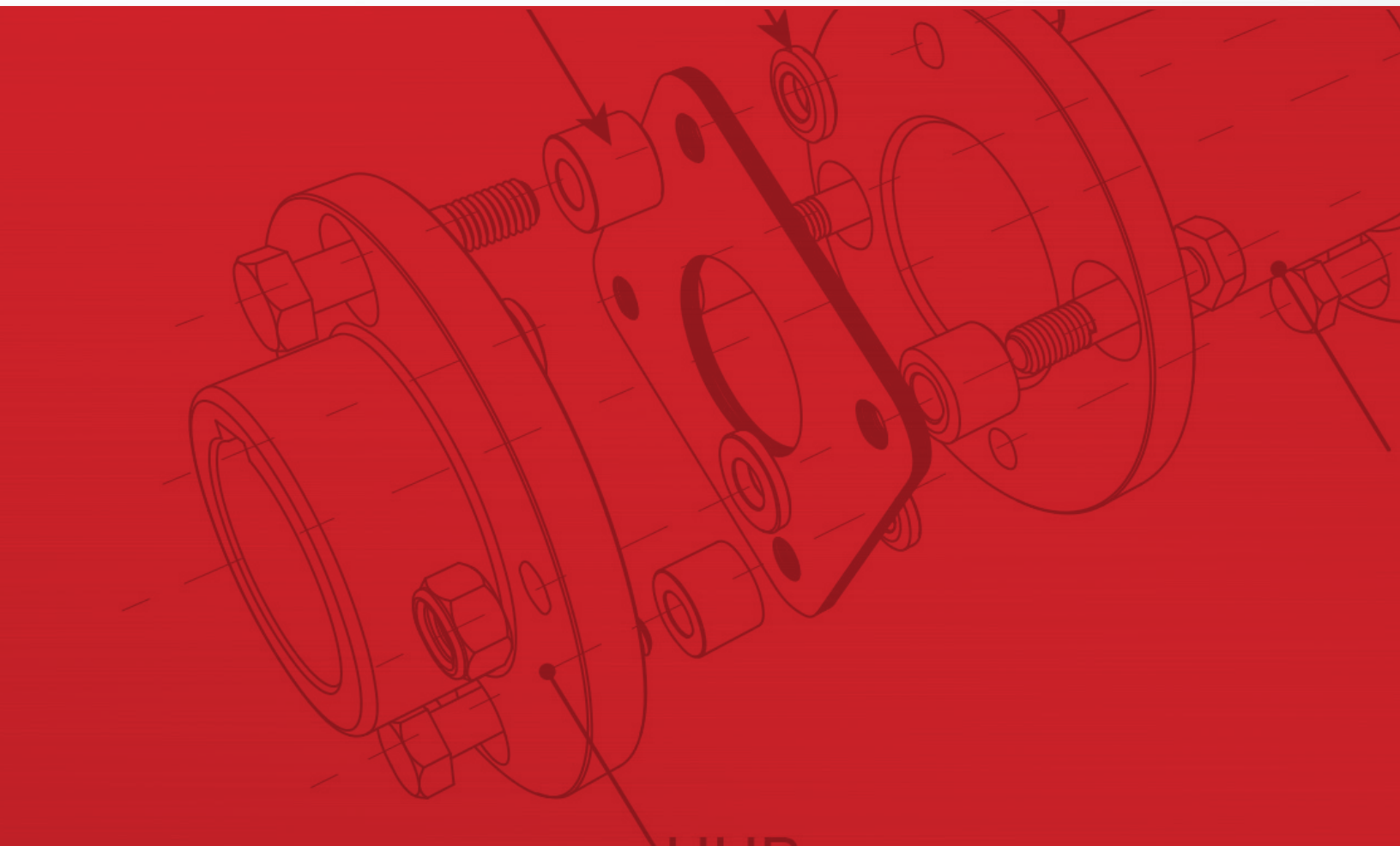
AEC

DISC COUPLINGS



DISC COUPLING

- Parts and their names
- Dimensions
- Assembly
- Installation



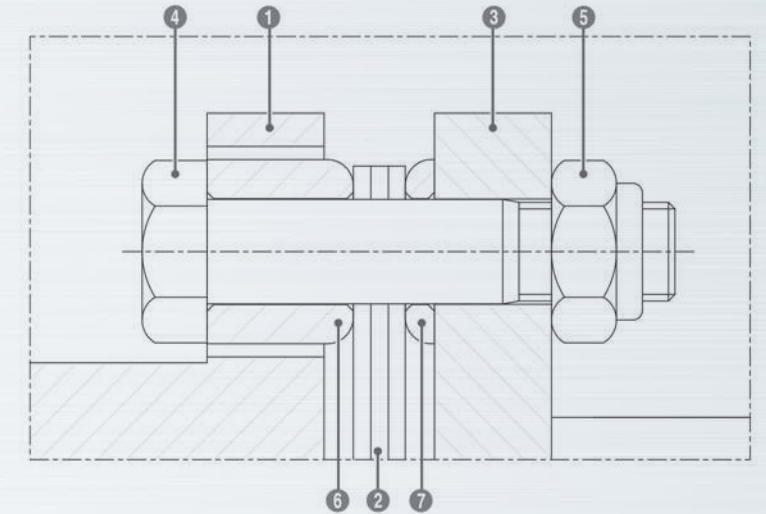
AEC DISC COUPLINGS

AEC DISC COUPLING is based on disks made of a package of thin metal sheets. This new design breaks away with classical flexible couplings. A disk coupling has no friction and no moving parts, so it doesn't require lubricating oil and can operate safely in high temperature environments.

In addition, disk couplings have a simpler structure and can transmit large torques even though it has light weight. It accepts different misalignments and has no backlash and a large torsional rigidity. Besides, it can be quickly and reliably mounted and disassembled because it is made up of few parts.

The most important quality of this coupling is its high reliability. It keeps operating even if some sheets in their disk packs are damaged due to an unexpected overload. Therefore, it helps maintain functioning the whole system.

| Parts



| Individual Parts

- ① Hub: S45C

- ② Disc pack: STS304, STS301

- ③ Spacer: S45C

- ④ Bolt: S45C-H

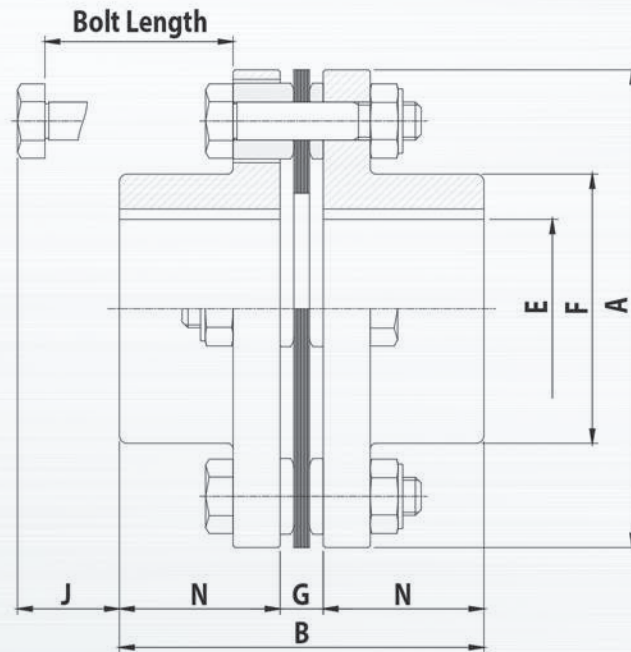
- ⑤ Lock nut: SS41

- ⑥ Bush (Overload bush) : S45C

- ⑦ Washer bush : S45C

Dimensions

P4-00S(Single Disc)

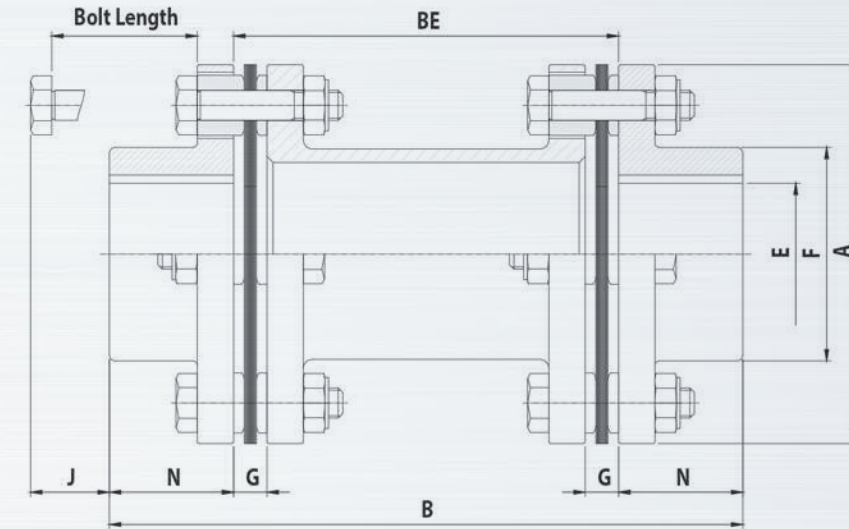


SIZE	Torque (Nm)	Max. A.R.D ⁽¹⁾	MAX SPEED (RPM)	Bore Dia.(mm) Emax.	DIMENSIONS(mm)						CPLG WT (kg)	GD ² 1kg (m ²)	B.T Torque(Nm) ⁽²⁾
					A	B	N	G	H	J			
05	33	15	15,000	23.0	67.0	55.8	25.0	5.8	33	16	0.6	8	9
10	90	25	15,000	32.0	81.0	57.0	25.0	7.0	46	16	1.1	24	9
15	177	56	15,000	35.0	93.0	66.4	29.0	8.4	51	24	1.7	48	22
20	245	83	15,000	42.0	104.0	79.0	34.0	11.0	61	30	2.5	80	22
25	422	120	12,000	50.0	126.0	93.0	41.0	11.0	71	27	4.3	224	41
30	775	180	10,000	58.0	143.0	108.4	48.0	12.4	84	28	6.9	440	72
35	1,270	270	9,300	74.0	168.0	130.0	57.0	16.0	106	26	11.3	1,080	72
40	2,060	380	8,000	83.0	194.0	145.0	64.0	17.0	118	30	16.7	2,080	160
45	3,330	450	7,300	95.0	214.0	174.8	76.0	22.8	137	34	22.8	3,520	160
50	4,900	610	6,300	109.0	246.0	202.0	89.0	24.0	156	26	24	7,200	220
55	6,370	770	5,600	118.0	276.0	230.0	102.0	26.0	169	42	26	12,800	570

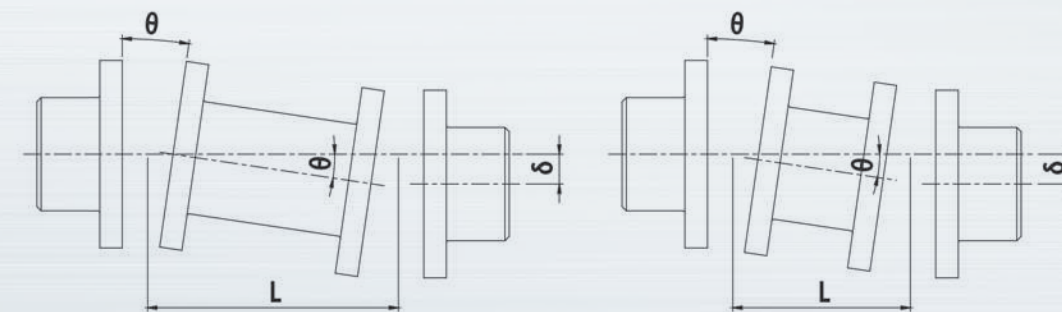
(1) Max. A,R,D = Max. allowable Radial Load
 (2) B,T Torque(Nm) = Bolt Tightening Torque(Nm)

P4-00D(Double Disc)

- P4 Standard P4-00D
- P4 Short P4-00SD



SIZE	Common		P4-00D(Standard)			P4-00SD(Short)			P4-00F(Custom)		
	Torque(Nm)	MAXSPEED(RPM)	BE(mm)	CPLG WT(kg)	GD ² (kg·cm ²)	BE(mm)	CPLG WT(kg)	GD ² (kg·cm ²)	B(mm)	BE(mm)	BE MAX.(mm)
05D	33	15,000	88.9	1.2	18	36	1.1	18	2F+D	Distance Between shaft ends, which the customer wants	200
10D	90	15,000	88.9	1.9	44	39	1.7	41			200
15D	177	15,000	101.6	2.9	84	47	2.7	79			250
20D	245	15,000	127	4.6	396	53	6.6	136			250
25D	422	12,000	127	7.6	396	62	6.6	337			350
30D	775	10,000	127	11.7	800	69	10.3	775			300
35D	1,270	9,300	127	18.3	1,680	78	15.6	1,628			300
40D	2,060	8,000	139.7	27.2	3,400	89	34	3,317			350
45D	3,330	7,300	152.4	37.8	5,600	97	31.5	5,428			350
50D	4,900	6,300	177.8	54	11,200	109	48.4	10,865			350
55D	6,370	5,600	177.8	78.9	20,400	134	73.9	20,127	400		

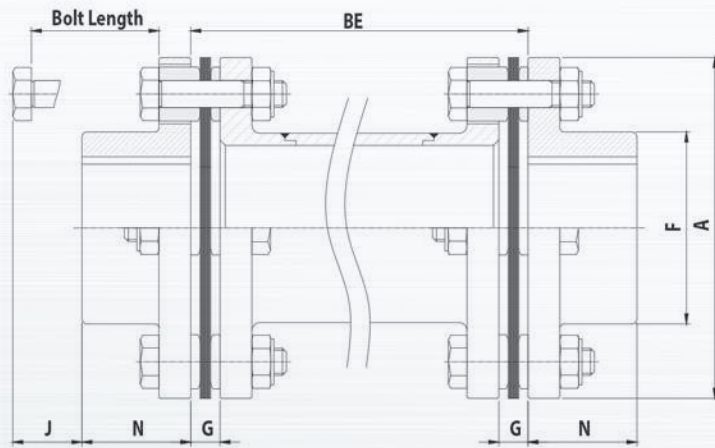


angular misalignment $\theta = 1^\circ$
 Parallel misalignment $\delta : L * \tan\theta$
 L : Central Distance between disc plates

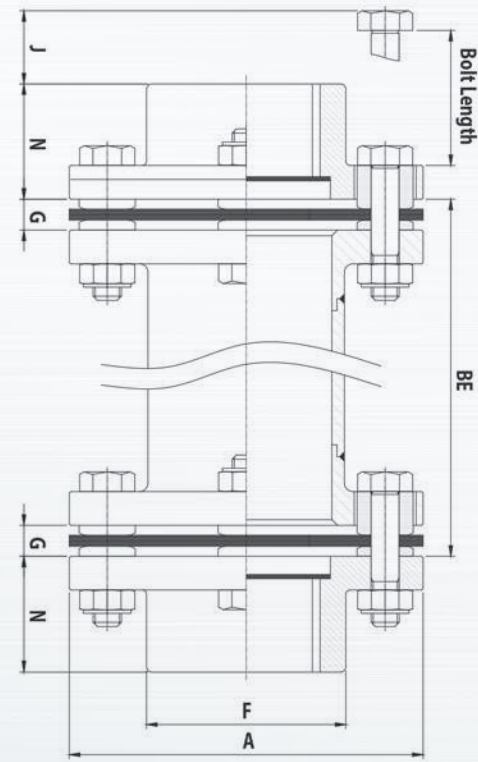
Dimensions

Floating Disc Flex

- Horizontal P4-00FH



- FV Vertical P4-00FV



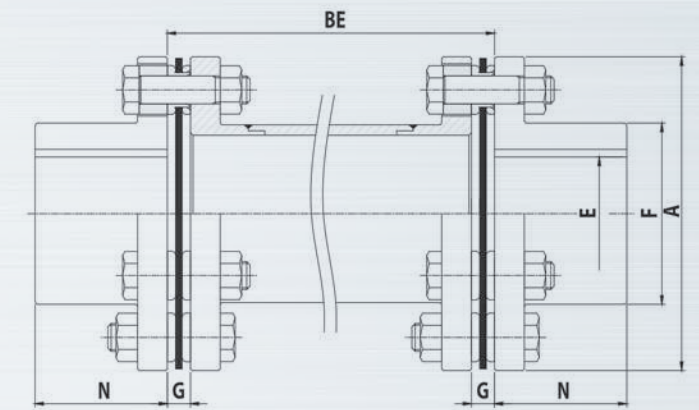
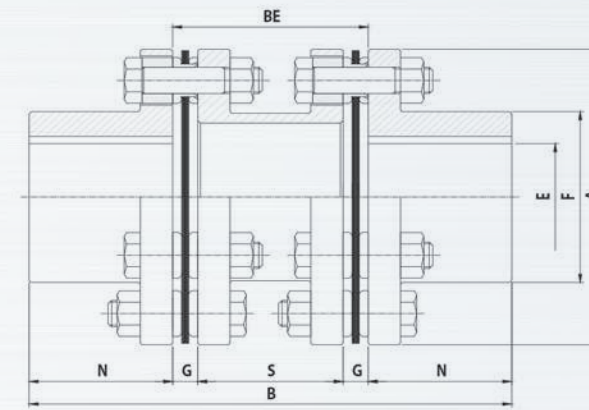
Size No.	Torque(N·m)	A (mm)	BE min (mm)	F (mm)	J (mm)	N (mm)	WEIGHT(kg)		GD^2(kgf·m)	
							Ⓐ W1	W2	Ⓑ BE min	GD^2
10F	90	81	72.2	46	16	25	1.9	0.029	50	0.44
15F	176	93	75.8	51	22	29	3	0.032	98	0.59
20F	245	104	88.4	61	20	34	4.3	0.039	168	1.1
25F	421	126	99.4	71	25	41	7.5	0.075	442	2.82
30F	774	143	111.4	84	28	48	11.7	0.11	922	6.03
35F	1274	168	141.6	106	23	57	18.7	0.139	2032	12.33
40F	2059	194	154	119	30	64	28.3	0.161	3839	19.21
45F	3333	214	183.2	137	22	76	38.3	0.186	6857	29.65
50F	4902	246	211.8	157	23	89	58.2	0.25	13639	52.73
55F	6372	276	234.4	170	40	102	81.9	0.31	25552	76.53

1. Total weight must be calculated by using following formula,
 $W = W1 \text{ @ } D \text{ min} + L \times W2 \text{ inertia effect factor}$
 L : D- D min(cm)

2. Total GD must be calculated by using following formula,
 $GD^2 = \text{Ⓑ Dim} + L \times GD^2 \text{ inertia effect factor}$

- P6-00D Double Standard Spacer
- P6-00F Double Custom Spacer

- P6-00FH Floating Horizontal
- P6-00FV Floating Vertical



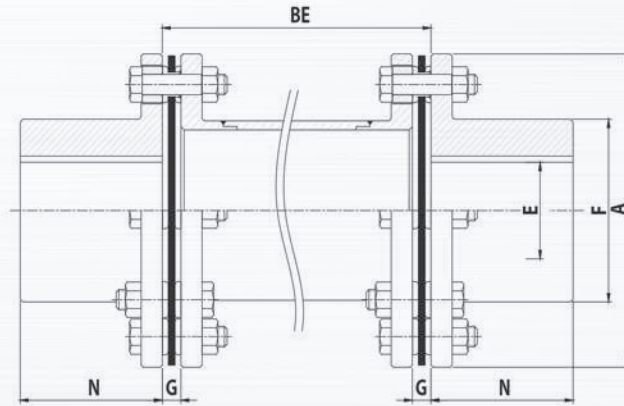
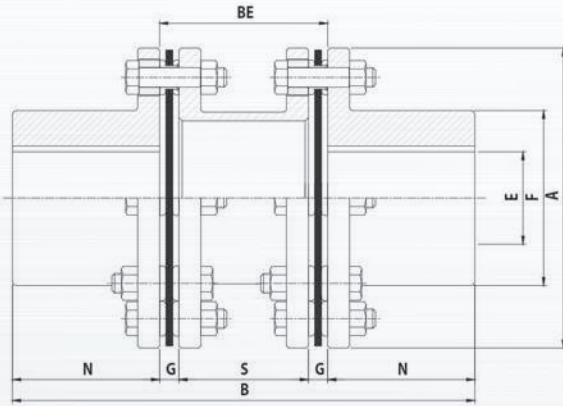
SIZE	Torque (N·m)	A(mm)	B(mm)	BE(mm)	F(mm)	MAXBORE (mm)	N(mm)	G(mm)	MAX(RPM)	WEIGHT (kg)	GD ² (kg·cm ²)	A.D.O axial direction ⁽¹⁾ ±mm	B.T Torque (Nm) ⁽²⁾
00	568	119	168	60	74	51	54	10.3	13,000	6.0	0.03	3.0	22
01	921	137	198	72	81	55	63	11	11,000	9.1	0.065	3.4	41
02	1,705	161	238	90	97	67	74	11.8	9,700	16.9	0.14	3.6	72
03	3,342	180	269	109	104	72	80	14	8,700	22.6	0.26	4.2	160
04	4,900	212	308	118	124	85	95	17	7,300	35.1	0.59	4.5	220
05	6,076	276	377	153	161	111	112	17.5	5,600	65.1	1.80	3.9	220
10	8,232	276	377	153	161	111	112	19	5,300	66.1	1.90	3.9	220
15	10,682	308	440	172	193	133	134	19	5,000	107.8	3.70	4.2	440
20	17,836	346	497	191	218	152	153	22.5	4,500	156.1	6.70	4.8	570
25	26,362	375	553	223	240	165	165	28	4,100	211.8	10.60	5.2	1100
30	33,418	410	610	254	258	178	178	31	3,750	274.5	16.50	5.4	1500
35	39,886	445	646	270	272	187	188	31	3,450	333.3	23.90	5.6	1700
40	46,216	470	686	274	297	205	206	34	3,300	399.2	30.70	6.3	1700
45	59,780	511	754	292	334	231	231	35.5	3,000	525.3	48.00	6.7	1700
50	74,676	556	800	292	363	254	254	37	TBD	676.3	72.90	7.3	3038
55	92,512	587	839	311	382	263	264	37.5	TBD	803.4	100.60	7.8	3528

(1) A,D,O axial direction = allowable displacement of axial direction

(2) B,T Torque(Nm) = Bolt Tightening Torque(Nm)

Dimensions

- P8-00D Double Standard Spacer
- P8-00F Double Custom Spacer
- P8-00FH Floating Horizontal
- P8-00FV Floating Vertical



SIZE	Torque (N·m)	A(mm)	B(mm)	BE(mm)	F(mm)	E _{max} (mm)	N(mm)	G(mm)	MAX(RPM)	WEIGHT (kg)	GD ² (kg·cm ²)	A.D.O axial direction ⁽¹⁾ ±mm	B.T Torque (Nm) ⁽²⁾
01	3,841	214	333	117	137	95	108	12.2	7,200	37.2	0.65	2.1	72
03	7,115	246	369	127	156	108	121	13.7	6,300	54.7	1.24	2.1	160
05	8,967	276	421	153	161	111	134	17.5	5,600	70.1	1.80	2.1	220
10	10,780	276	421	153	161	111	134	19	5,600	72.6	1.80	2.1	220
15	15,386	308	492	172	193	133	160	19	5,000	112.2	3.70	2.4	440
20	25,578	346	557	191	218	152	183	22.5	4,500	165.0	6.80	2.9	570
25	37,730	375	619	223	240	165	198	28	4,000	210.1	10.80	3.1	11,100
30	47,138	410	682	254	258	178	214	31	3,750	276.1	16.70	3.3	1,500
35	57,036	445	720	270	272	187	225	31	3,450	341.0	25.00	3.6	1,700
40	64,386	470	768	274	297	205	247	34	3,300	412.5	31.10	4.0	1,700
45	83,594	511	848	292	334	231	278	35.5	3,000	539.0	48.00	4.5	1,700
50	103,194	556	902	292	364	254	305	37	TBD	761.4	74.70	5.0	3,038
55	128,086	587	945	311	382	263	317	37.5	TBD	901.9	101.60	5.2	3,528

(1) A.D.O axial direction = allowable displacement of axial direction

(2) B.T Torque(Nm) = Bolt Tightening Torque(Nm)

4 Bolts Type (P4-TYPE)

SIZE No.	Maximum Shaft Diameter(mm)		Maximum Span D _{max} (mm) for Various Speed(RPM)								
	Standard Hub	Z(K) Hub	1800	1500	1200	1000	900	750	720	600	500
	10	32	40	1610	1760	1970	2160	2280	2500	2550	2790
15	35	42	1690	1850	2070	2270	2390	2620	2670	2930	3210
20	42	48	1880	2050	2300	2520	2650	2910	2970	3250	3560
25	50	60	2010	2210	2470	2700	2850	3120	3190	3490	3830
30	58	70	2220	2430	2720	2980	3140	3440	3510	3850	4210
35	74	85	2500	2740	3060	3350	3540	3870	3950	4330	4750
40	83	95	2690	2950	3300	3610	3800	4180	4250	4660	5120
45	95	110	2890	3170	3540	3880	4090	4490	4570	5010	5120
50	109	120	3100	3400	3800	4160	4390	4820	4910	5370	5900
55	118	130	3230	3540	3960	4430	4560	5010	5100	5590	

6 Bolts Type (P6-TYPE)

Maximum distance between shaft end D_{max}(mm) for Various Speed(RPM)

SIZE No.	Standard Hub	1800	1500	1200	1000	900	750	720	600	500
00	51	2010	2210	2470	2700	2850	3120	3190	3490	3830
01	55	2220	2430	2720	2980	3140	3440	3510	3850	4210
02	67	2500	2740	3060	3350	3540	3870	3950	4330	4750
03	72	2890	3170	3540	3880	4090	4490	4570	5010	5500
04	85	3100	3400	3800	4160	4390	4820	4910	5370	5900
05	111	3100	3400	3800	4160	4390	4820	4910	5370	5900
10	111	3100	3400	3800	4160	4390	4820	4910	5370	5590
15	133	3230	3540	3960	4330	4560	5010	5100	5590	
20	152	3720	4070	4560	4990	5250	5770	5880		
25	165	3720	4070	4560	4990	5250	5770	5880		

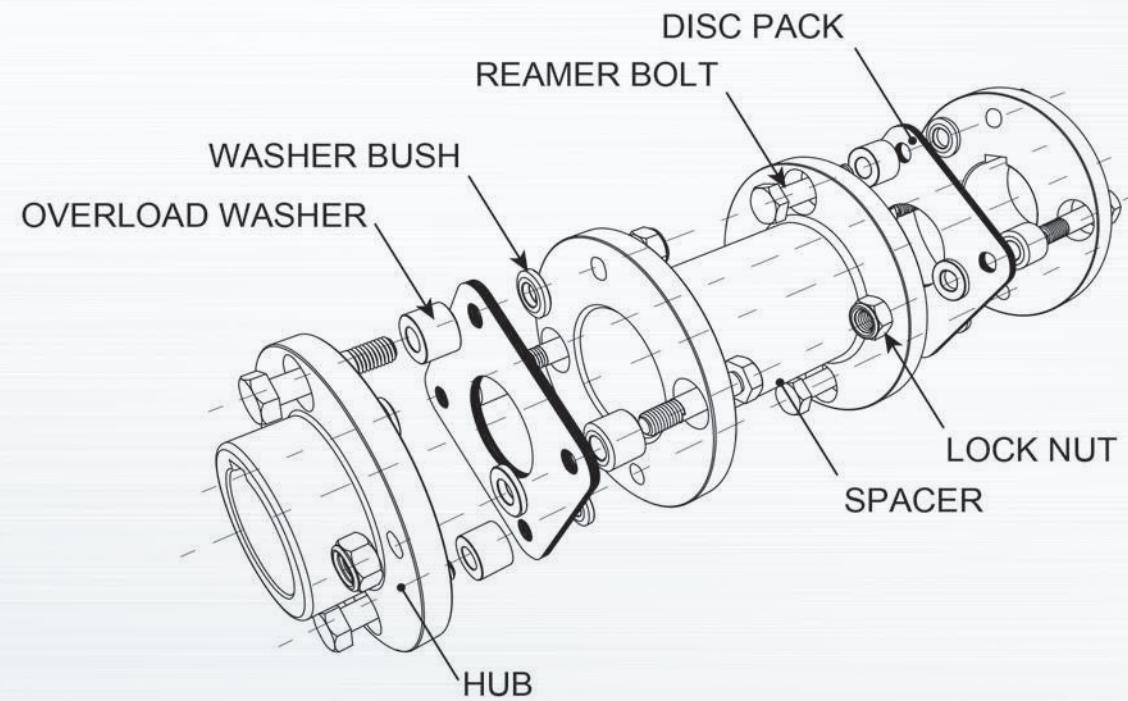
8 Bolts Type (P8-TYPE)

Maximum distance between shaft end D_{max}(mm) for Various Speed(RPM)

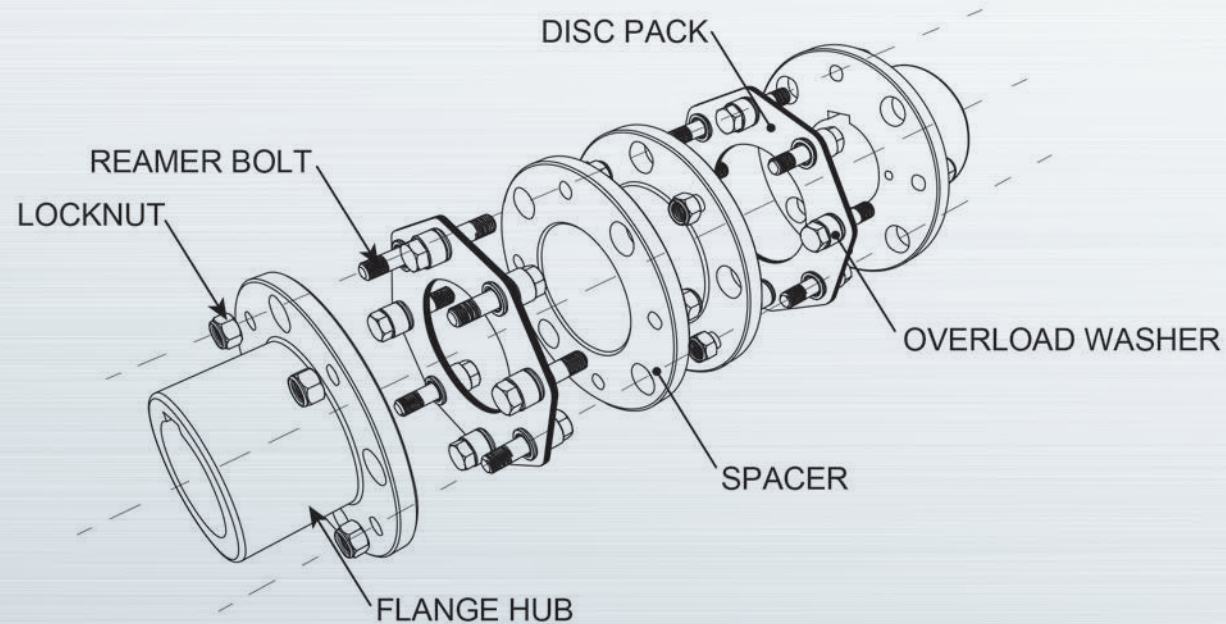
SIZE No.	Standard Hub	1800	1500	1200	1000	900	750	720	600	500
01	95	2890	3170	3540	3880	4090	4490	4570	5010	5500
03	108	3100	3400	3800	4160	4390	4820	4910	5370	5900
05	111	3100	3400	3800	4160	4390	4820	4910	5370	5900
10	111	3100	3400	3800	4160	4390	4820	4910	5370	5900
15	133	3230	3540	3960	4330	4560	5010	5100	5590	
20	152	3720	4070	4560	4990	5250	5770	5880		
25	165	3680	4030	4510	4940	5200	5710	5810		

Assembly drawing

Design features of 4 - bolt coupling



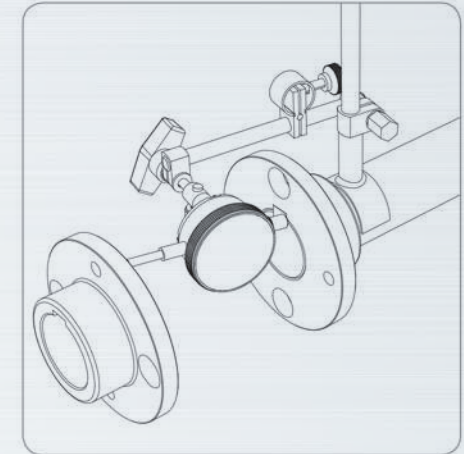
Design features of 6 - 12 bolt coupling



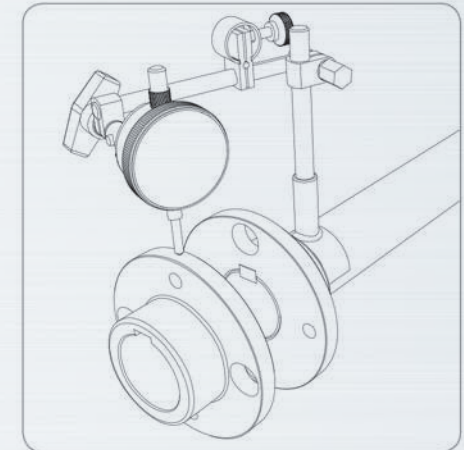
Installation

1 Check shaft and inner diameter for foreign material.

2 Check angular misalignment (Fig.1)
 *Fix the dial gauge to one side, the rotate the hub to read the minimum value of the dial gauge and set it to zero. (0)
 *Rotate the coupling of the dial gauge 360 degrees again, read the motion of the dial gauge and adjust to the minimum value.



3 Check parallel misalignment (Fig.2)
 *For parallel misalignment of shaft, check the outer diameter dial gauge values of the driven hub while rotating the drive shaft.
 *Adjust the value within the maximum allowable value by moving the equipment or using the base plate.



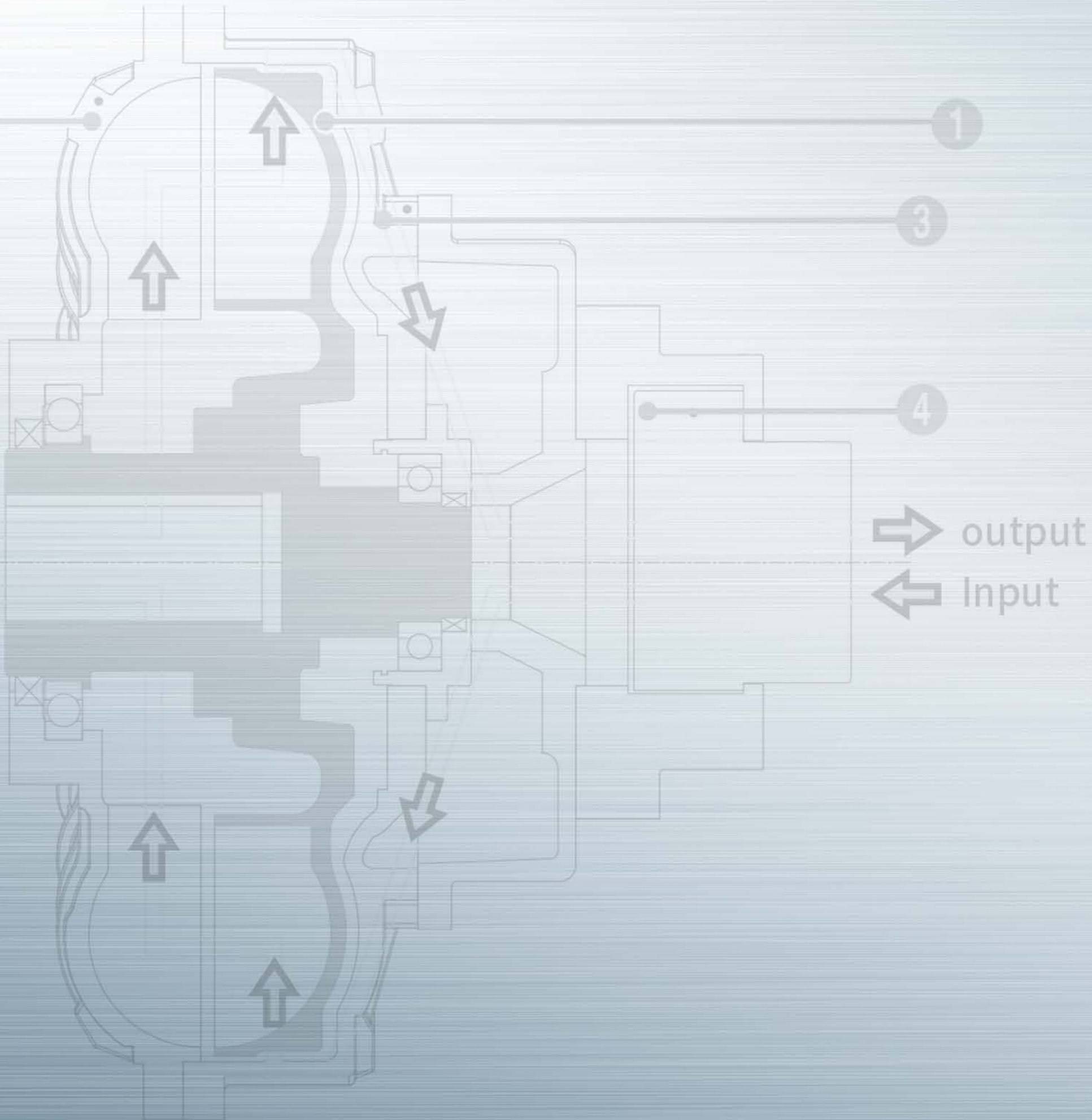
4 Refer to the structural diagram and assemble the remaining parts.

NOTE

To ensure the permanent life, minimize angular misalignment and parallel misalignment within 12 hours of a test working, at which time the bolts and nuts are fastened to the specified torque.

AEC

FLUID COUPLINGS



FLUID COUPLING

- Types
- Selection
- Mounting
- Dismounting
- Oil filling
- Operation and maintenance
- Assembly drawing
- Dimensions

Operating principle

- 1 start-up impeller
- 2 driven impeller
- 3 cover
- 4 sub coupling

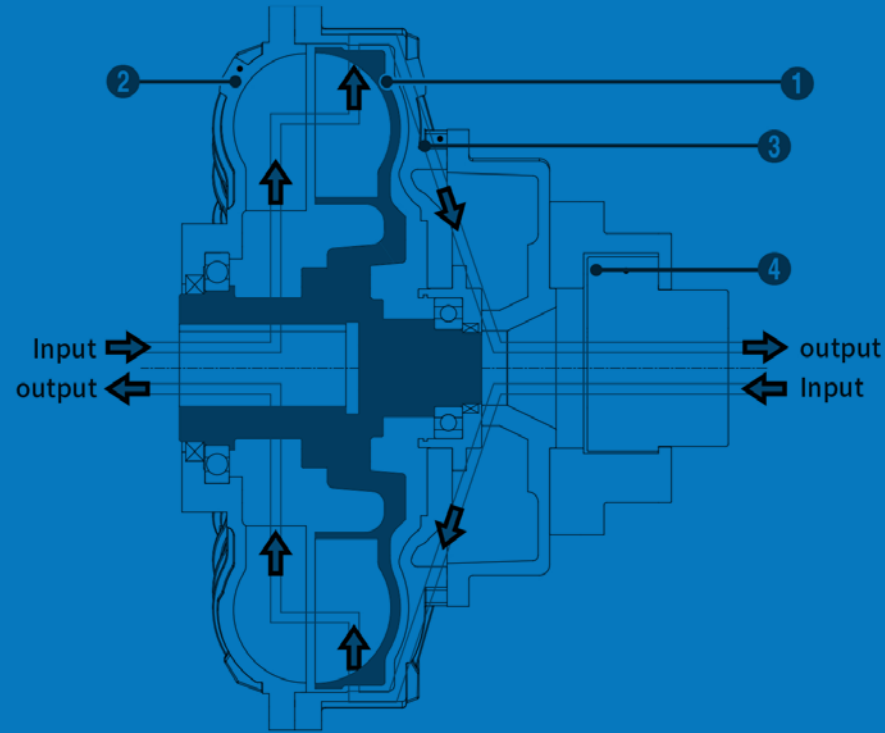
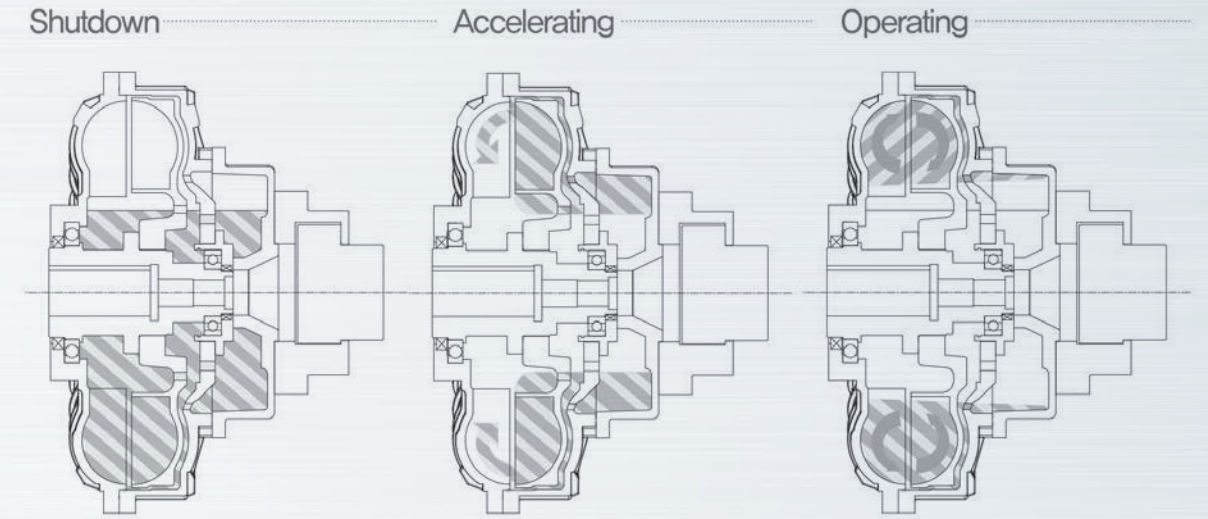


Figure 1



| Types

Standard Type allows:

- Check angular misalignment (Fig.1)
- *Fix the dial gauge to one side, the rotate the hub to read the minimum value of the dial gauge and set it to zero. (0)
- *Rotate the coupling of the dial gauge 360 degrees again, read the motion of the dial gauge and adjust to the minimum value.



Chamber type

Due to its long start-up time, chamber type fluid is used to silence start-up operation since oil is stored in chamber at holding time and it flows into the circuit through the nozzle during the operation. Due to constant speed operation oil in the circuit creates less slip. It could also be used effectively to control the starting torque to prevent belt breakage especially on belt conveyors.



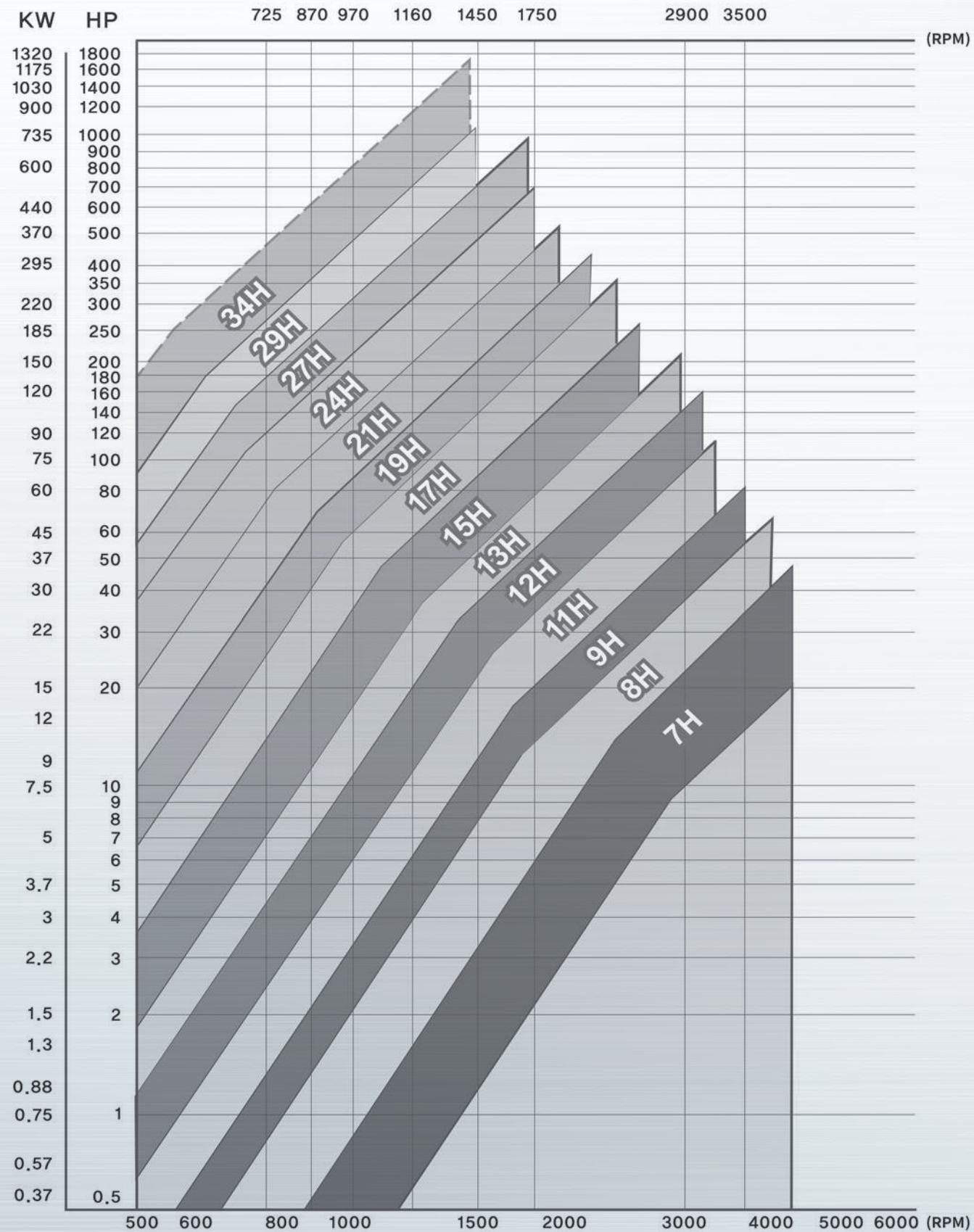
A fluid coupling is a transmission based on the kinetic energy of a fluid. Each coupling shaft is rigidly coupled to an impeller, and between them circulates a fluid flow. The kinetic energy of the flow thrown by the driver impeller 1 is greater than the kinetic energy of the flow thrown by the driver impeller 2. The torque T transmitted by the coupling is proportional to the difference of speed (slip) between the impellers.

After the engagement of the coupling, the relative slip stays normally on the range 1.5% - 6.0%.

The relative slip in % of a hydrodynamic coupling is defined as $100 \times (n1 - n2) / n1$.

Selection of Fluid Coupling

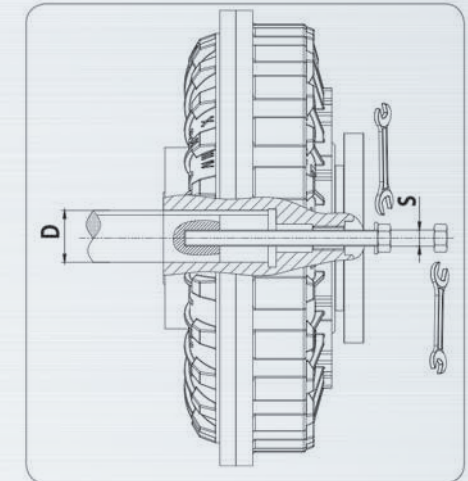
Table for selecting specification by used power and input speed



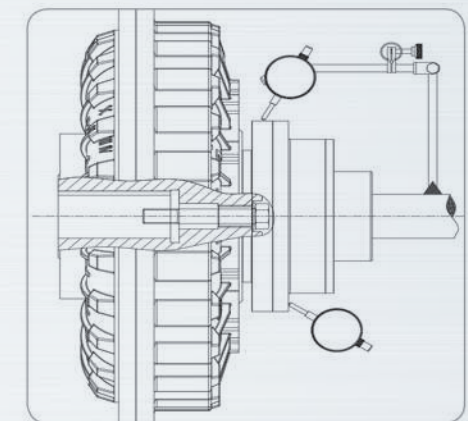
Mounting

PHH / PHP (TYPE in which the motor shaft is directly connected to the input shaft)

- 1 Mount the Fluid Coupling to the motor shaft using engaging bolts as shown in the figure.
- 2 Mount the Holset coupling to the driven shaft.
- 3 Tighten the main frame of the fluid coupling with fixing bolts as shown in the figure.



- 4 Align the shaft with a gauge as shown. It is recommended to adjust the parallel misalignment (ϵ), angular misalignment (α) and gap (K) within the range of Table (1) for a long life.



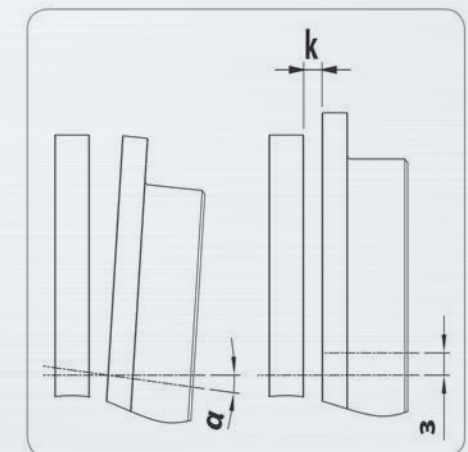
NOTE

Never assemble the Fluid Coupling in the shrinkage fitting when assembling it to the motor shaft. Oil leaks may be caused due to damage of the oil seal.

Table 1

Specification	Sub Coupling	Parallel mis-alignment(ε) (mm)	Angular mis-alignment(α)	Gap(K)
9H / 11H / 12H	HS20	0.15	0.1	2
13H / 15H	HS23	0.20	0.1	3
17H / 19H	HS26	0.25	0.1	3
21H / 24H	HS31	0.30	0.1	3
27H / 29H	HS36	0.30	0.1	4
34H	HS47	0.30	0.1	5

※ Apply only half the values of Table 1 for parallel misalignment or angular misalignment when using it at 1,500 RPM or more.



PHD / PHG / PHF TYPE (I/O Separation TYPE)

Sub Coupling such as Gear, Disc and Flange is installed on both sides of input and output, and it is convenient to equip to or unequip from the motor and the driven part.

- 1 Mount Flange or Hub on shafts of both sides. For shrinkage fitting, the heating temperature should be 100 °C to 120 °C.
- 2 Align the shaft with a dial gauge as shown in the figure. Adjust the parallel misalignments (ϵ_1, ϵ_2), angular misalignments (α_1, α_2), and axial displacements (S1, S2) within the values of Table 20 for a long life.

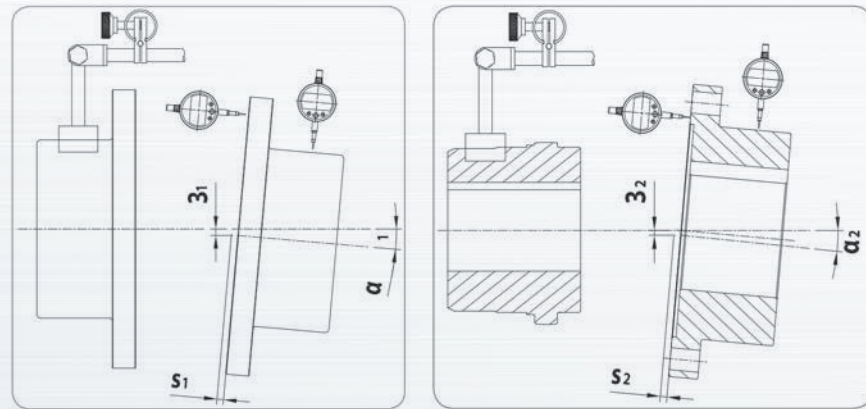
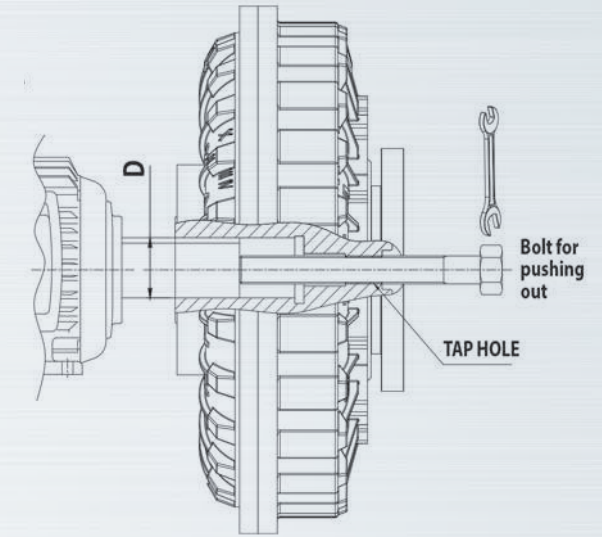


Table 2

Specification	PHD, PHCD, PHF, PHCF			PHG, PHCG		
	Parallel misalign-ment(ϵ_1) (mm)	Angular misalign-ment(α_1)°	Axial displacement (S1) (mm)	Parallel misalign-ment(ϵ_1) (mm)	Angular misalign-ment(α_1)°	Axial displacement (S2) (mm)
9H / 11H / 12H	0.12	0.1	±0.25	0.15	0.05	-0.5~3
13H / 15H	0.15	0.1	±0.25	0.15	0.05	-0.5~3
17H / 19H	0.15	0.1	±0.25	0.15	0.05	-0.5~3
21H / 24H	0.2	0.1	±0.25	0.20	0.05	-0.5~4
27H / 29H	0.2	0.1	±0.25	0.25	0.05	-0.5~4.5
34H	0.2	0.1	±0.25	0.30	0.05	-0.5~5.5

Dismounting

Dismount the main frame of the coupling from the motor shaft by pushing it out with an opposite bolt. Do not use a hammer or hydraulic jack. Otherwise, the main frame of the coupling may be damaged.



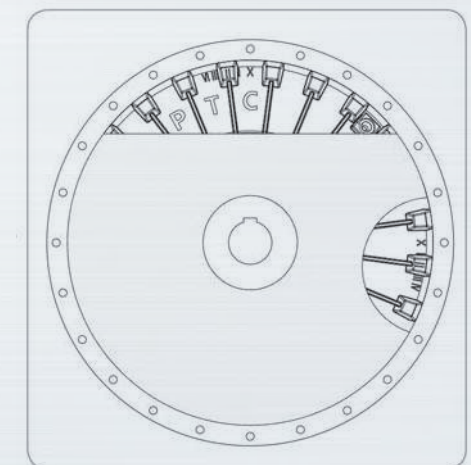
Specification	9 / 11 / 12		13 / 15		17 / 19		21 / 24		27 / 29		34	
Diameter	28, 38	42, 48	48, 55, 60, 65	60, 65, 75, 80	80, 90, 100	100, 120, 135	150					
Bolt for pushing out	H	M16 x 250	M16 x 320	M30 x 340	M30 x 360	M36 x 460	M45 x 530	M45 x 560				
	CH	M16 x 250	M16 x 320	M30 x 410	M30 x 440	M36 x 560	M45 x 650	M45 x 690				

Oil filling

- 1 If the fluid coupling is installed horizontally, rotate it to select the desired amount of oil feeding (marks X, I, II, III, IV) indicated on the outside of the coupling.

- 2 The efficiency of the coupling lowers and the oil temperature increases as the slip goes up. Thus, select the proper level of oil filling.

- 3 Turn the coupling and loosen the opposite plug to allow inside air to escape. And pour enough oil to make it flow out from the inlet opening.



- 4 See Tables 4 and 5 for the amount of the oil feeding. If you cannot find the point of the oil feeding, feed the oil at “X” and at “II” for the standard type and chamber type, respectively.

Table 4 H Type

Specification of Standard type	Amount of oil (L)				
	X	I	II	III	IV
9H	1.7	1.59	1.48	1.35	1.2
11H	2.6	2.42	2.24	2.04	1.84
12H	3.8	3.55	3.3	3.03	2.74
13H	4.3	3.99	3.68	3.29	2.9
15H	7.2	6.8	6.3	5.7	5.1
17H	10.5	9.8	9	8.2	7.3
19H	13.7	12.8	11.8	10.7	9.6
21H	18	16.8	15.4	14	12.6
24H	28	26.2	24.2	22	19.6
27H	39	36.5	33.6	30.7	27.6
29H	51	47.6	44.2	40.6	36.8
34H	82.5	76.6	70.7	65.8	61.9

Table 5 CH Type

Specification of Chamber type	Amount of oil (L)		
	II	III	IV
12H	4.5	3.9	3.3
13H	5	4.5	4.1
15H	7.9	7.1	5.9
17H	13	12.2	11.2
19H	15.6	14.5	13.4
21H	22.1	20.5	18.6
24H	31.2	28.6	26
27H	47	43.7	40.4
29H	61	57.1	52.3
34H	88	84.2	79.4

- 5 For the chamber type, select “II” as the maximum.

- 6 To prevent oil leaks, apply a sealant to the plug.

NOTE Do not use an adhesive for screw. Otherwise, the thread may be damaged during disassembly.

- 7 For installing vertically, feed oil in the order of the above 1 to 6 before installing.

- 8 See Table 6 for used oils.

Table 6

Recommended oil	Agip	Esso	Mobil	Shell	Texaco
ISO 32 HM	Castrol	NUTO H 32	DTE 24(OIL LIGHT)	TELLUS 32	RANDO HD 32

Operation and maintenance

If start-ups are frequent, make sure that the maximum oil temperature does not exceed 90°C. If you want to operate at higher temperatures, you must use special seals. Please contact AEC COUPLINGS

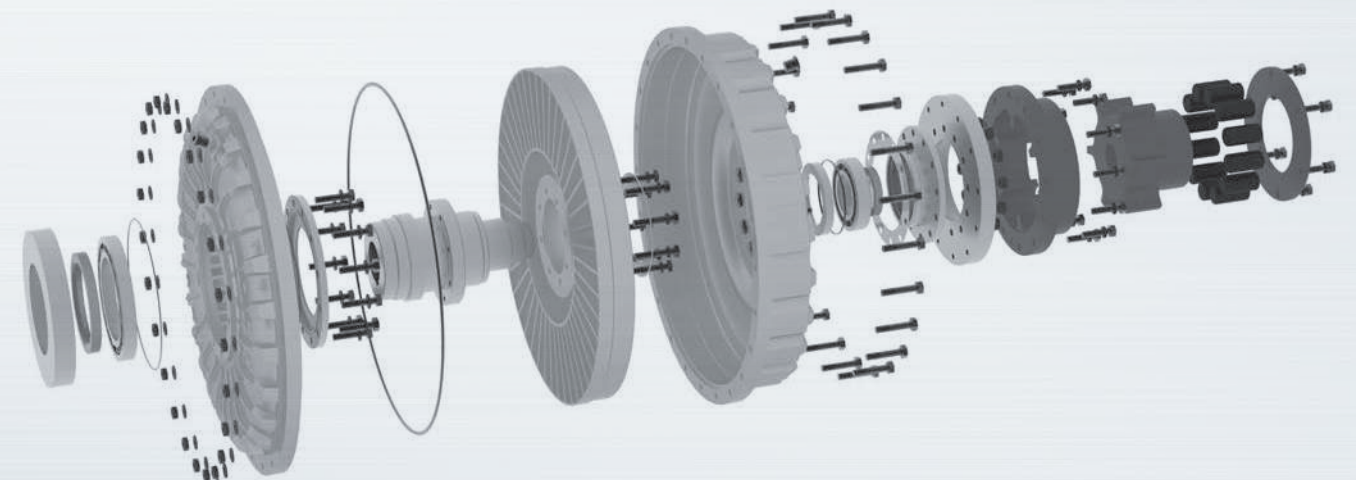
Excessive heat may be caused by the following:

- Insufficient oil.
- Less rated power of the motor than the demanded power of the driven machine.
- Environment’s high temperature for coupling’s operation due to poor ventilation.
- Long operation time and frequent start-ups.

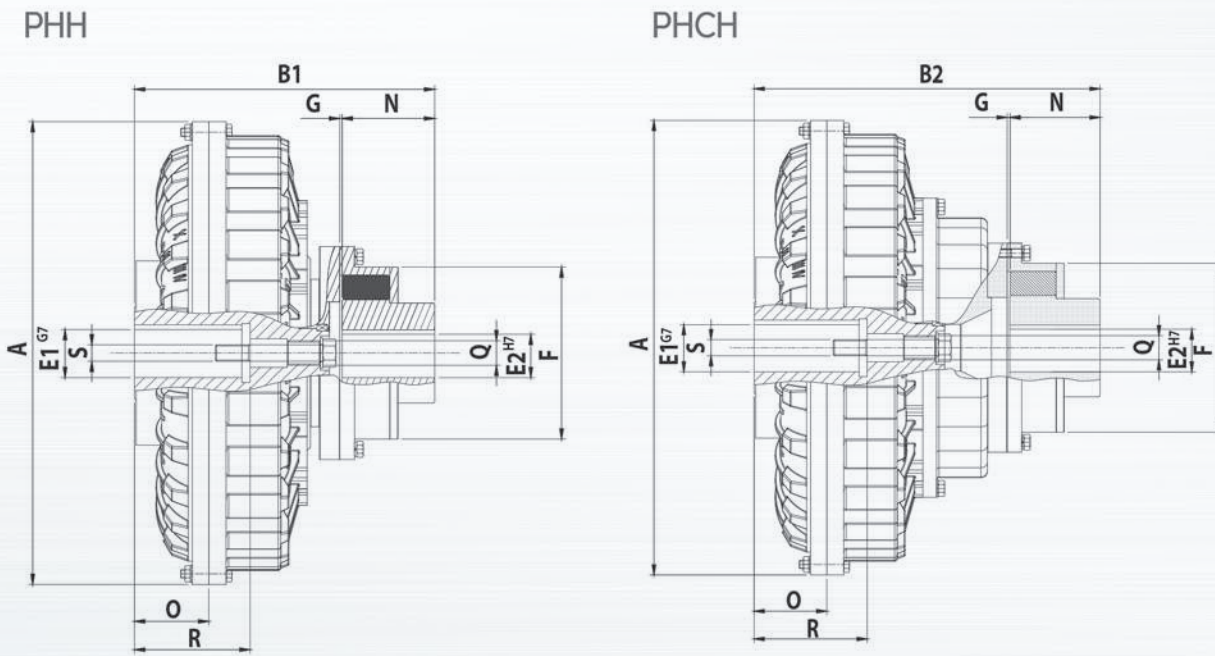
Must Do’s

- Check the amount of oil and fastening of the fixing bolt after 5000 hours of initial operation.
- The standard of fusible plug is 145°C. If 120°C or 175°C is required, please contact AEC Couplings.
- Replace oil approximately every 5000 hours of operation.
- If the driven machine rotates in reverse, there are concerns about equipment and safety accidents. Therefore, be sure to install braking device (BRAKE DRUM or BRAKE DISC) before use.

Assembly drawing



Dimensions



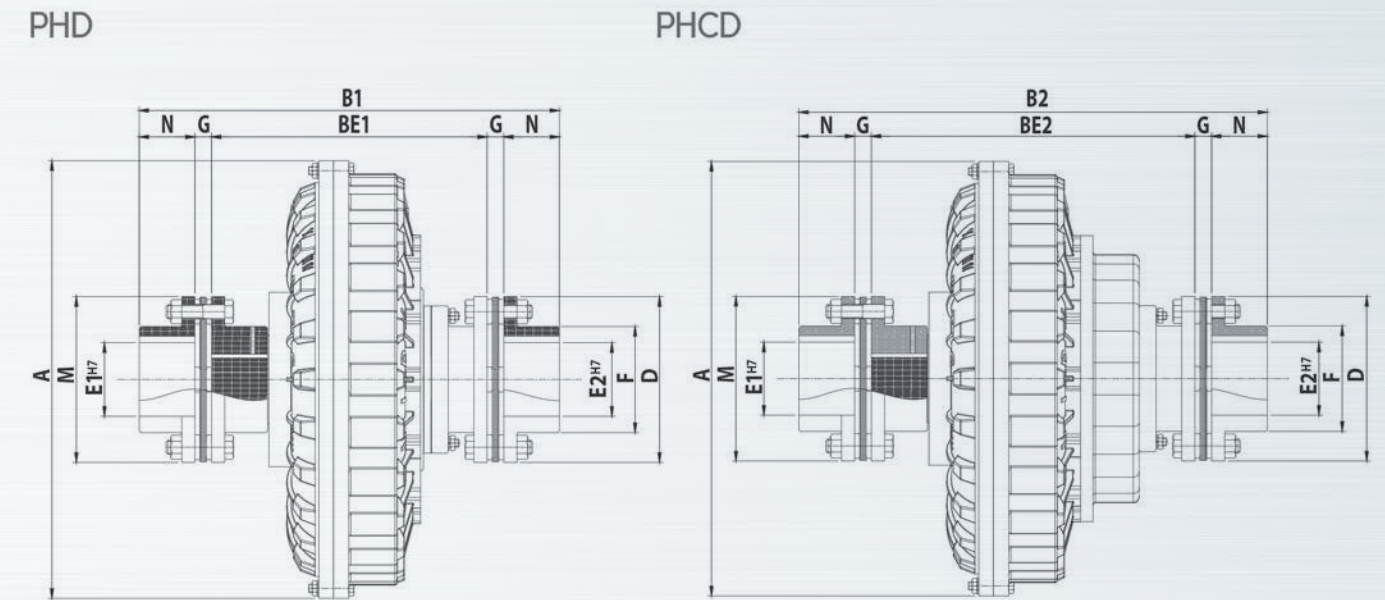
Specification	Dimensions (mm)											Sub-COPLING	WEIGHT(kg)		
	A	B1	B2	E1	E2 max	F	N	O	Q	R	S		G	PHH	PHCH
9H	295	249	-	28 38 42 48	55	132	80	43 54 74	M16 M16	60 80 110	M10 M12 M16	2	HS20	16	-
11H	325	258	-	28 38 42 48	55	132	80	42 63 83	M16 M16	60 80 110	M10 M12 M16	2	HS20	18	-
12H	370	258	322	38 42 48	55	132	80	63 83	M16 M16	80 110	M12 M16	2	HS20	21.5	24.5
13H	398	285	345	42 48 55 60	70	170	80	84 84 104	M30	110 140	M16 M20	3	HS23	34	37
15H	460	343	411	48 55 60 65	80	170	110	81 111	M30	110 140	M16 M20	3	HS23	50.3	54.3
17H	520	362	442	60 65 75 80	90	250	110	104 104 134	M30	140 140 170	M20	3	HS26	77	83
19H	565	362	442	60 65 75 80	90	250	110	104 104 134	M30	140 140 170	M20	3	HS26	84	90
21H	620	433	533	75 80 90	110	290	140	100 130	M36	140 170	M20 M24	3	HS31	129	139
24H	710	433 468	533 568	80 90 100	110	290	140	130 165	M36	170 210	M20 M24	3	HS31	147	157
27H	780	504	622	120 max	120	350	150	*167	M45	*210	*M24	4	HS36	228	246
29H	860	533	651	135 max	120	350	150	*167	M45	*240	*M24	4	HS36	281	299
34H	1000	615	746	150 max	155	425	180	*200	M45	*265	*M36	5	HS47	449	464

※ Please refer to Table 4 and Table 5 for the amount of oil.

※ "·": Please apply Lower key(DIN 6885/2)

※ " * ": The dimension of the indication is the maximum shaft diameter.

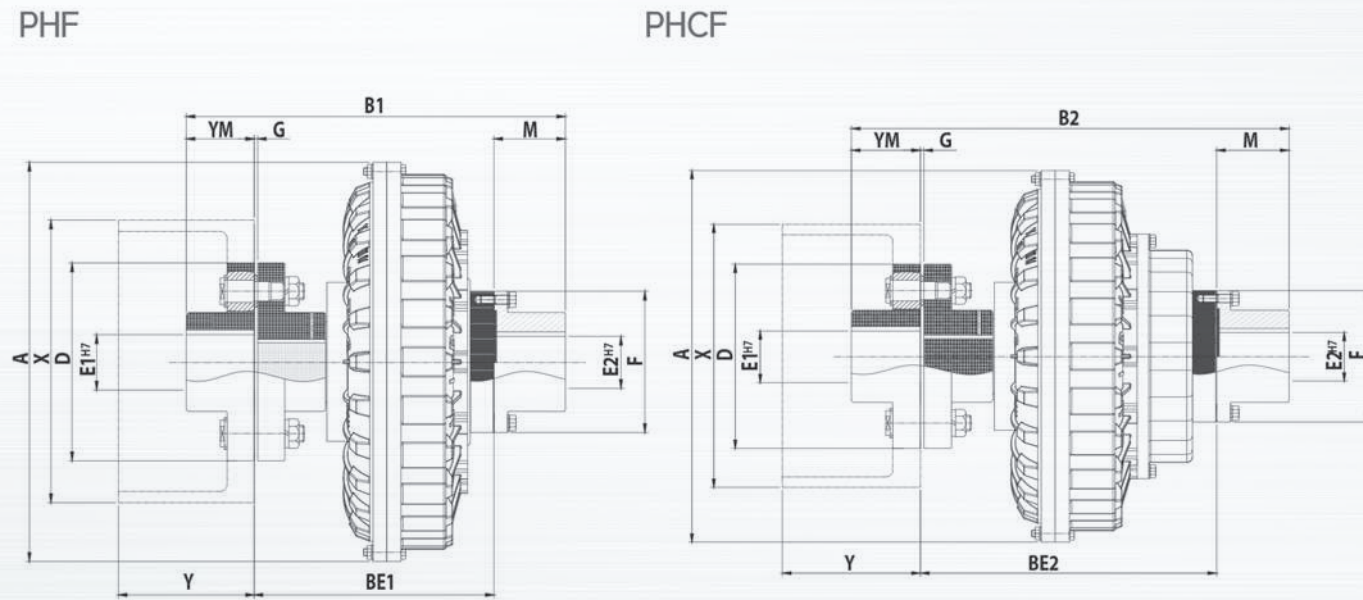
Dimensions



Specification	Dimensions (mm)										Weight(kg)	
	A	B1	B2	BE 1	BE 2	E max	M	M	N	G	PHD	PHCD
9H	295	377.3	-	258.3	-	58	84	143	47.8	11.7	24.4	-
11H	325	386.3	-	267.3	-	58	84	143	47.8	11.7	26.4	-
12H	370	398.3	465.3	279.3	346.3	58	84	143	47.8	11.7	31.4	34.4
13H	398	446.2	521.7	298.2	373.7	74	106	168	57.2	16.8	45	48
15H	460	513	592	352	431	83	119	194	63.5	17	64.2	68
17H	520	588.3	670.3	392.7	474.7	95	137	214	76.2	21.6	100	106
19H	565	588.3	670.3	392.7	474.7	95	137	214	76.2	21.6	109	115
21H	620	733.6	835.7	476.1	578.1	118	170	276	101.6	27.2	187	197
24H	710	738.2	840.2	480.6	582.6	118	170	276	101.6	27.2	209	219
27H	780	869	1028	563	722	133	198	308	134	19	368	391
29H	860	972.5	1131.5	623.5	782.5	152	218	346	153	21.5	503	526
34H	1000	1169.5	1296.5	760.5	887.5	152	218	346	183	21.5	697	712

※ Please refer to Table 4 and Table 5 for the amount of oil.

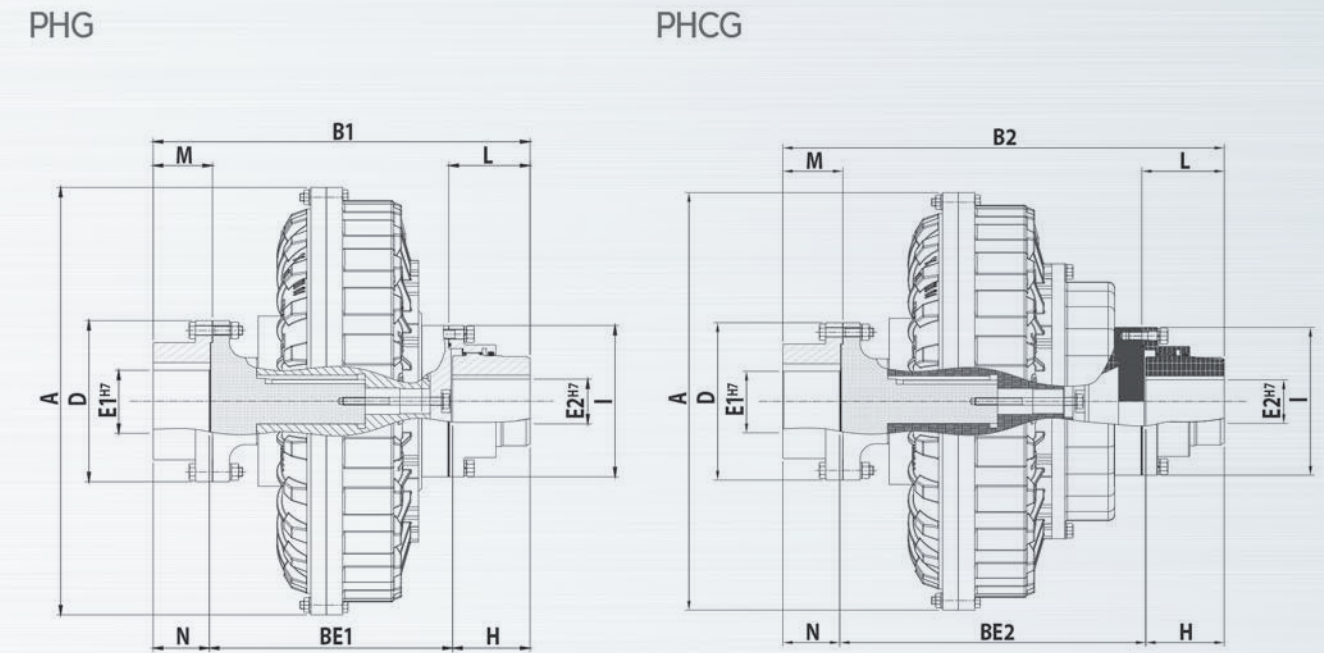
Dimensions



Specification	Dimensions (mm)												Weight(kg)	
	A	B1	B2	BE1	BE2	D	E1 max	E2 max	F	M	YM	G	PHF	PHCF
9H	295	355	-	214	-	160	45	75	160	85	56	3	28	-
11H	325	378	-	230	-	180	50	75	160	85	63	3	32	-
12H	370	407	474	251	318	200	56	75	160	85	71	4	42	45
13H	398	435	510.5	270	345.5	224	63	75	160	85	80	4	53	56
15H	460	509	588	314	393	250	71	95	200	105	90	4	85	89
17H	520	556	638	351	433	280	80	95	200	105	100	4	114	120
19H	565	556	638	351	433	280	80	95	200	105	100	4	123	129
21H	620	633	735	403	505	315	90	105	224	118	112	4	177	187
24H	710	660	762	417	519	355	100	105	224	118	125	5	226	236
27H	780	722	881	450	609	400	110	150	280	147	125	5	335	358
29H	860	781	940	494	653	450	125	150	280	147	140	5	416	439
34H	1000	-	1022	659	659	450	130	135	318	160	140	5	505	520

※ Please refer to Table 4 and Table 5 for the amount of oil.
 ※ "X","Y" dimensions are determined by the brake specifications.

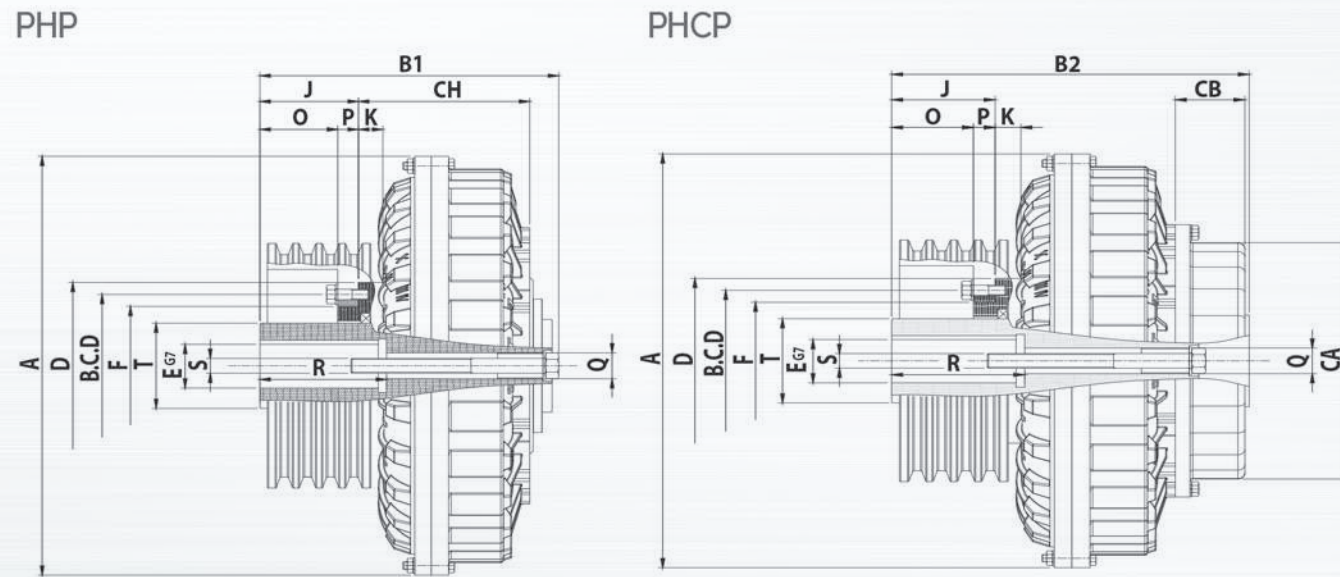
Dimensions



Specification	Dimensions (mm)										Weight(kg)	
	A	B1	B2	BE1	BE2	D	E1 max	E2 max	H	M	PHG	PHCG
9H	295	307	-	209	-	152	75	60	49	55	24	-
11H	325	312	-	214	-	152	75	60	49	55	26	-
12H	370	313	395	215	297	152	75	60	49	55	29.6	32.5
13H	398	340	406	242	308	152	75	60	49	55	38.7	41.7
15H	460	429	517	275	363	213	111	92	77	83	80	84
17H	520	457	544	303	390	213	111	92	77	83	94.5	100.5
19H	565	457	544	303	390	213	111	92	77	83	101.5	107.5
21H	620	517	643	335	461	240	130	105	91	97	147.1	157.1
24H	710	517	643	335	461	240	130	105	91	97	165.1	175.1
27H	780	598	761	386	549	279	149	124	106	114	262	291
29H	860	632	789	420	577	279	149	124	106	114	316	334
34H	1000	722	864	480	622	318	171	146	121	129	500.5	515.5

※ Please refer to Table 4 and Table 5 for the amount of oil.
 ※ Please fill grease to Gear Coupling.

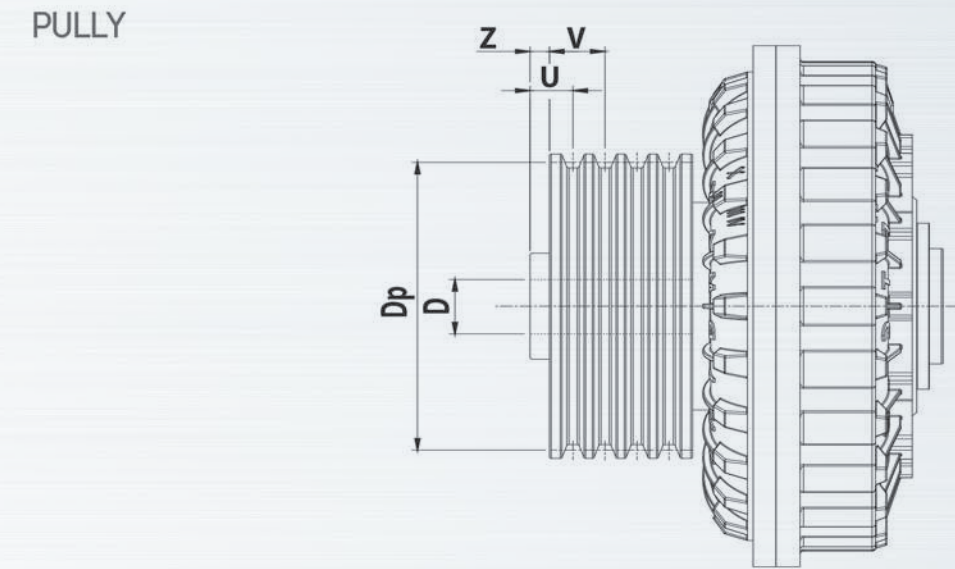
Dimensions



Specification	Dimensions (mm)																		Weight(kg)			
	A	B1 max	B2	CA	CB	CH	D	E	R	K	TAP	B.C.D	O	P	F	J	T max	Q	S	PHP	PHCP	
9H	295	250	-	-	-	96	128	28 38	60 80	20	8xM8 (DP13)	114	85	5	96	116	69	M16	M10 M12	13	-	
11H	325	259	-	-	-	107	128	28 38	60 80	20	8xM8 (DP13)	114	85	5	96	113	69	M16	M10 M12	15	-	
12H	370	274	330	220	83	122	145	38 80		22	8xM8 (DP13)	130	98	7	112	125	80	M16	M12	19	22	
13H	398	359	410	220	-	137	179	42 48	110	29	12xM8 (DP13)	155	158	6	135	190	88	M30	M16	31	34	
15H	460	384	438	255	92	151	206	55 60	110 140	28	12xM10 (DP17)	178	159	7	150	195	100	M30	M20	46	50	
17H	520	455	516	330	101	170	225	60 65	140	60	12xM10 (DP17)	200	180	7	180	245	132	M30	M20	74	80	
19H	565	455	516	330	-	190	225	60 65	140	45	12xM10 (DP17)	200	180	7	180	225	132	M30	M20	82	88	
21H	620	505 580	545 620	400 415	115	205 250		80 90	170	57	8xM14 (DP20)	228 230	190	7	200	260 300	145	M36	M20 M24	110	120	
24H	710	505 580	545 620	400	-	229 250		80 90	170	46	8xM14 (DP20)	228 230	190	7	200	236 276	145	M36	M20 M24	125	137	
27H	780				138	278		120	210													

※ Please refer to Table 4 and Table 5 for the amount of oil.
 ※ "*" The dimension of the indication is the maximum shaft diameter.
 ※ "·": Please apply Lower key(DIN 6885/2)

Dimensions



Specification	Dimensions (mm)			
	D	U	Pulley	
			Dp	Number-Type
9H	28	10	112	5-A
11H	38	15	125	4-B
	42	34	160	3-B
12H	48	58	200	3-B
	38	12	140	5-B
	42	50	180	4-B
	48	51	200	3-C
		26	200	4-C
13H	48	50	180	6-B
	55	49	250	5-C
15H	60	50	200	6-B
	65	17	250	5-C
			280	
17H	65	12	265	7-B
	75	72	315	6-B
		35	355	6-C
19H	75	72	315	6-B
	80	35	355	6-C
21H	80	20	355	8-C
	90		400	
21H	100	60	355	8-C
			400	
24H	80	20	355	8-C
	90		400	
24H	100	60	355	8-C
			400	

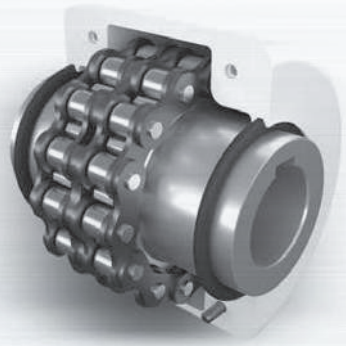
Pulley	V	Z
M	10	9.5
A	15	10
B	19	12.5
C	25.5	17
D	37	24
3V	10.3	8.7
5V	17.5	12.7
8V	28.6	19

※ Other pulley specs are also available, Even if it is not provided on the list

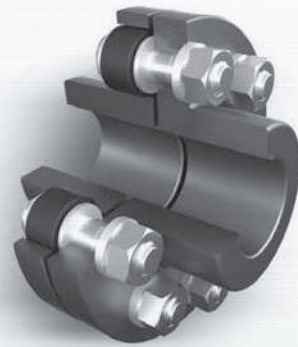
※ The dimensions excluding the pulleys are same as PHP and PHCP.

Other couplings

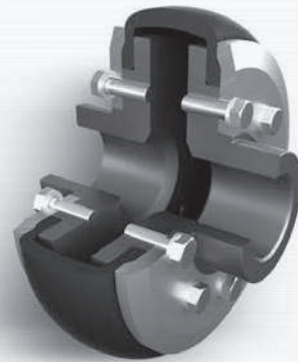
Universal shafts



Chain Coupling



Flange Coupling



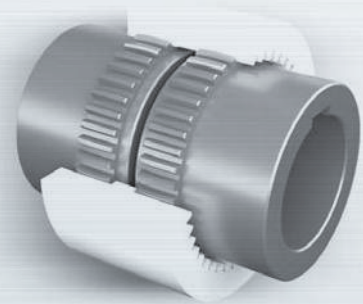
Rubber Coupling



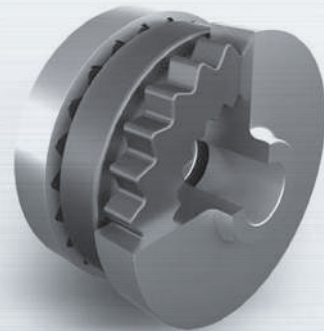
Cardan Shaft Close Eye



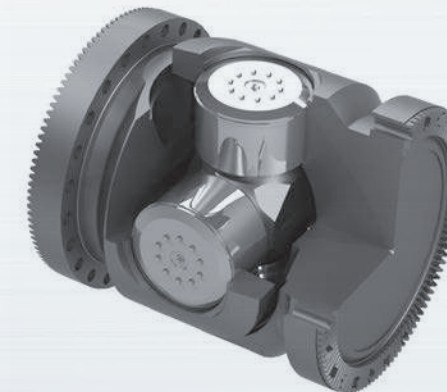
Cross Assembly



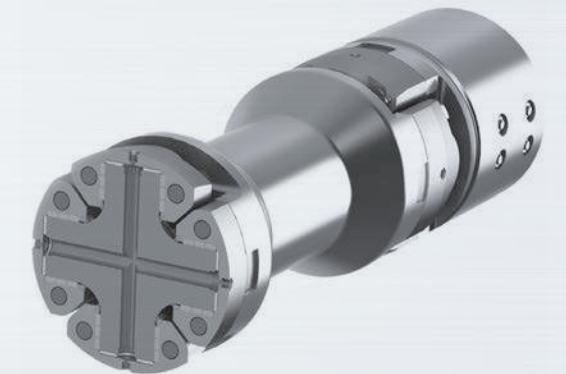
Nylon Coupling



Cardan Shaft Block Type



Yoke



Cardan Shaft Block Type



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