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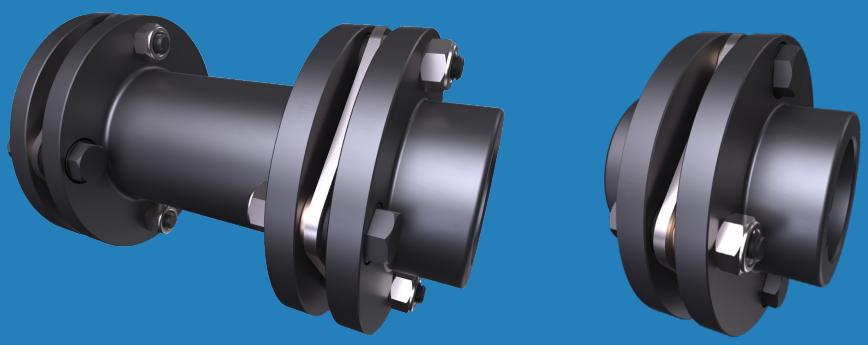


FLEXMAX

DISC COUPLINGS

FLEXMAX

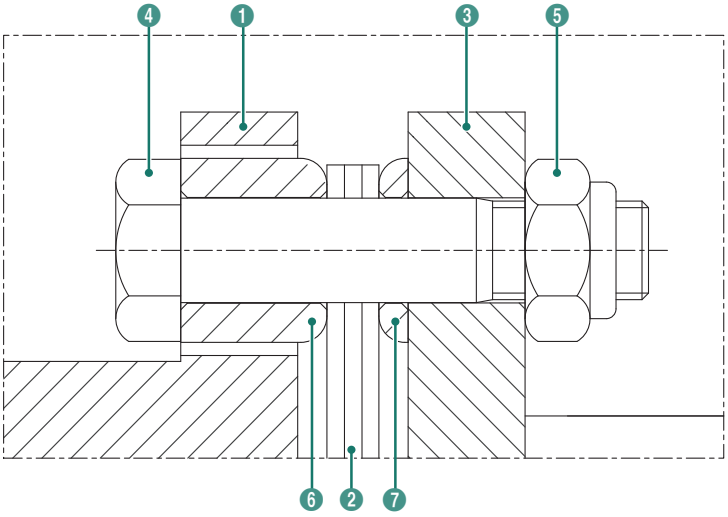
DISC COUPLINGS

PTC DISC COUPLING is based on discs made of a package of thin metal sheets. This new design breaks away with classical flexible couplings. A disc 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, disc couplings have a simpler structure and can transmit large torques even though it has light weight. It accepts different misalignments and has to 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 disc packs are damaged due to an unexpected overload. Therefore, it helps maintain functioning the whole system. DISC COUPLING is widely used at industrial sites due to its more economical mechanical operability, safety and convenience.

Parts

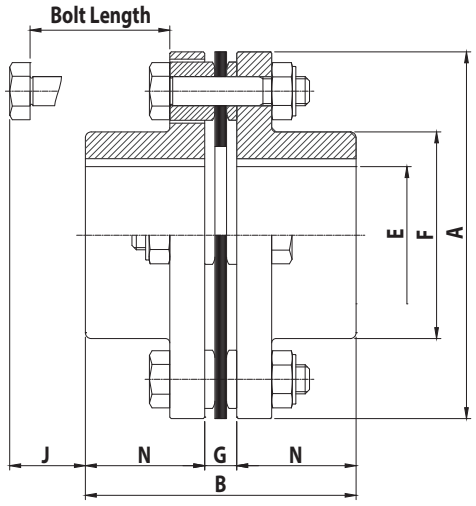


Name of each part

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)



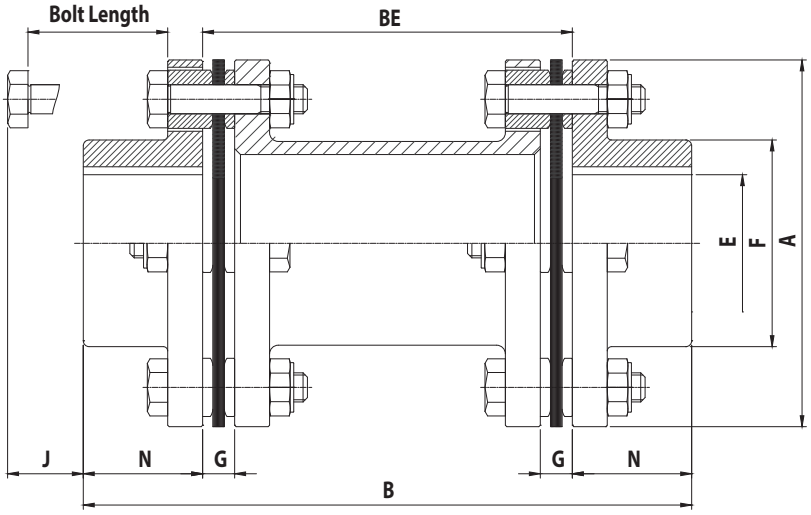
SIZE	Torque (Nm)	Max. A.R.D(1) (kg)	MAX SPEED (RPM)	BORE DIA (㎜)	DIMENSIONS(mm)						CPLG WT (kg)	GD² (kgf·m²)	B.T Torque(Nm)(2)
				E max	A	B	F	G	N	J			
05	33	15	15,000	23.0	67.0	55.8	33	5.8	25.0	10	0.6	8	9
10	90	25	15,000	32.0	81.0	57.0	46	7.0	25.0	10	1.1	24	9
15	177	56	15,000	35.0	93.0	66.4	51	8.4	29.0	17.2	1.7	48	22
20	245	83	15,000	42.0	104.0	79.0	61	11.0	34.0	18	2.5	80	22
25	422	120	12,000	50.0	126.0	93.0	71	11.0	41.0	19	4.3	224	41
30	775	180	10,000	58.0	143.0	108.4	84	12.4	48.0	23	6.9	440	72
35	1,270	270	9,300	74.0	168.0	130.0	106	16.0	57.0	16	11.3	1,080	72
40	2,060	380	8,000	83.0	194.0	145.0	118	17.0	64.0	19	16.7	2,080	160
45	3,330	450	7,300	95.0	214.0	174.8	137	22.8	76.0	22.8	22.7	3,520	160
50	4,900	610	6,300	109.0	246.0	202.0	156	24.0	89.0	18	35.4	7,200	220
55	6,370	770	5,600	118.0	276.0	230.0	169	26.0	102.0	20	52	12,800	570

(1) Max. A.R.D = Max. allowable Radial Load

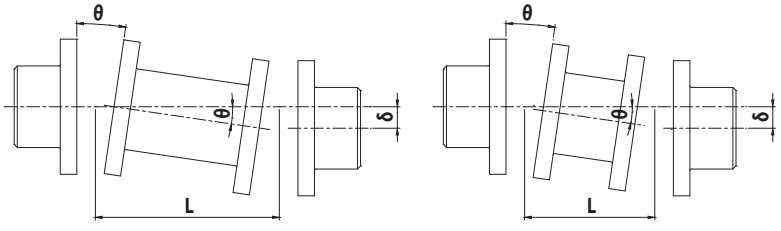
(2) B.T Torque(Nm) = Bolt Tightening Torque(Nm)

P4-00D(Double Disc)

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



Common			P4-00D(Standard)			P4-00SD(Short)			P4-00F(Custom)		
SIZE	Torque(Nm)	MAXSPEED(RPM)	BE(㎜)	CPLG WT(kg)	GD² (kgf·cm²)	BE(㎜)	CPLG WT(kg)	GD² (kgf·cm²)	B(㎜)	BE(㎜)	BE MAX(㎜)
05	33	15,000	88.9	1.2	18	36	1.1	18			200
10	90	15,000	88.9	1.9	44	39	1.7	41			200
15	177	15,000	101.6	2.9	84	47	2.7	79			250
20	245	15,000	127	4.1	148	53	3.7	136			250
25	422	12,000	127	7.1	396	62	6.6	337			250
30	775	10,000	127	10.8	800	69	10.3	775	2F+D	Distance Between shaft ends, which the customer wants	300
35	1,270	9,300	127	16.3	1,680	78	15.6	1,628			300
40	2,060	8,000	127	24.7	3,400	89	24	3,317			350
45	3,330	7,300	197	32.5	5,600	97	31.5	5,428			350
50	4,900	6,300	197	50	11,200	109	48.4	10,865			350
55	6,370	5,600	197	75	20,400	134	73.9	20,127			400



angular misalignment θ = 1°

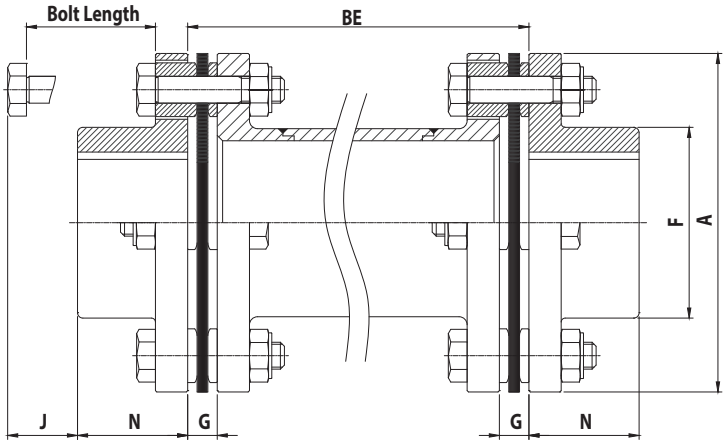
Parallel misalignment δ : L * tanθ

L : Central Distance between disc plates

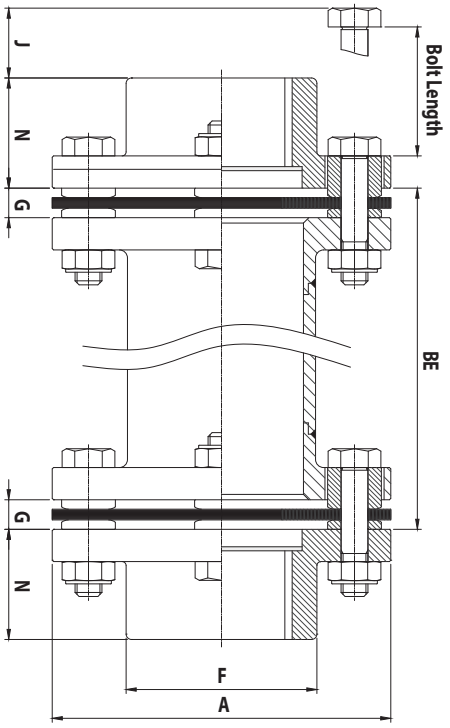
Dimensions

Floating Disc Flex

- Horizontal P4–00FH



- FV Vertical P4–00FV

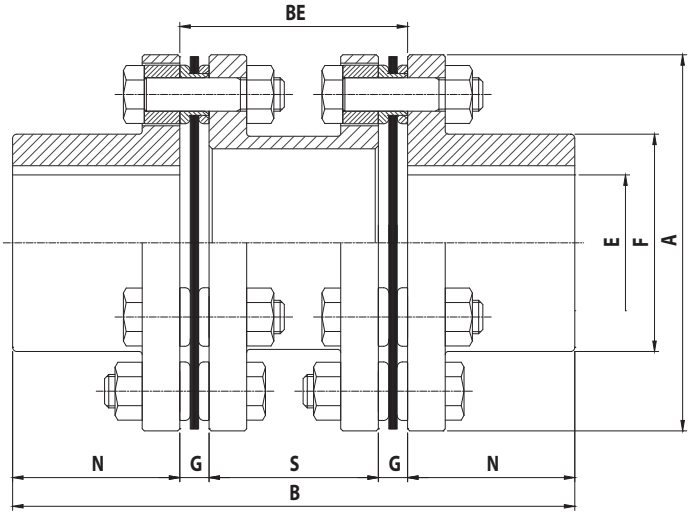


							WEIGHT(kg)		GD^2(kgf*m²)	
							ⓐ W1	W2	ⓑ	GD^2
Size No.	Torque(Nm)	A (mm)	BE min (mm)	F (mm)	J (mm)	N (㎜)	BE min	inertia effect factor	BE min	inertia effect factor
10	90	81	72.2	46	10	25	1.9	0.029	50	0.44
15	176	93	75.8	51	17.2	29	3	0.032	98	0.59
20	245	104	88.4	61	18	34	4.3	0.039	168	1.1
25	421	126	99.4	71	19	41	7.5	0.075	442	2.82
30	774	143	111.4	84	23	48	11.7	0.11	922	6.03
35	1274	168	141.6	106	16	57	18.7	0.139	2032	12.33
40	2059	194	154	118	19	64	28.3	0.161	3839	19.21
45	3333	214	183.2	137	22.8	76	38.3	0.186	6857	29.65
50	4902	246	211.8	156	18	89	58.2	0.25	13639	52.73
55	6372	276	234.4	169	20	102	81.9	0.31	25552	76.53

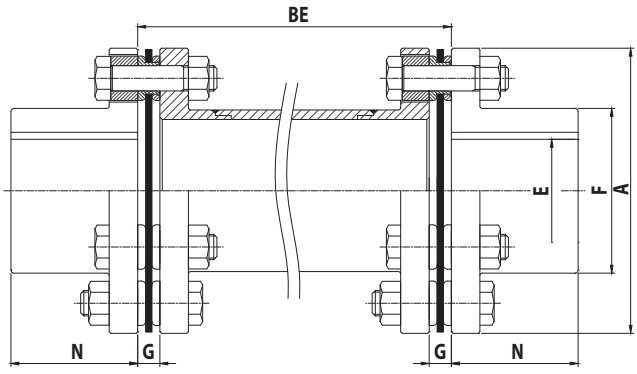
1. Total weight must be calculated by using following formula.
   W = W1 ⓐ BE min + L x W2 inertia effect factor
   L : BE– BE min(cm)

2. Total GD must be calculated by using following formula.
   GD^2 = ⓑ BE min + L x GD^2 inertia effect factor

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



- P6–00FH Floating Horizonrtal
- P6–00FV Floating Vertical



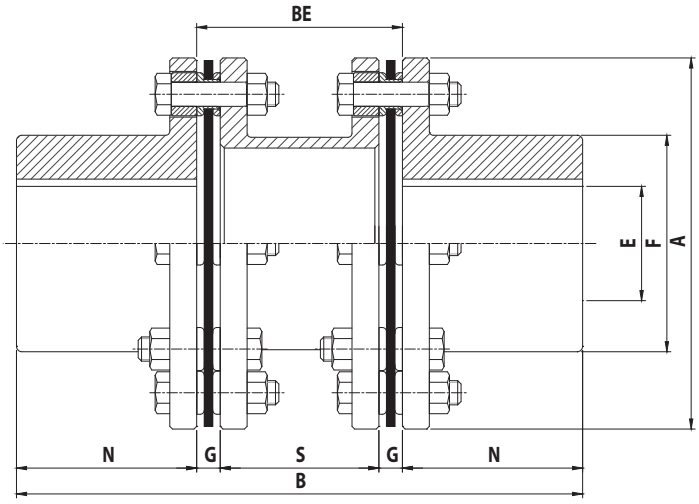
SIZE	Torque (Nm)	MAX SPEED (RPM)	A(㎜)	B(㎜)	BE(㎜)	F(㎜)	E max (㎜)	N(㎜)	G(㎜)	WEIGHT (kg)	GD² (kgf·m²)	A.D.O axial direction(1) ±㎜	B.T Torque (Nm)(2)
00	568	13,000	119	168	60	74	51	54	10.3	6.0	0.03	3.0	22
01	921	11,000	137	198	72	81	55	63	11	9.1	0.065	3.4	41
02	1,705	9,700	161	238	90	97	67	74	11.8	16.9	0.14	3.6	72
03	3,342	8,700	180	269	109	104	72	80	14	22.6	0.26	4.2	160
04	4,900	7,300	212	308	118	124	85	95	17	35.1	0.59	4.5	220
05	6,076	5,600	276	377	153	161	111	112	17.5	65.1	1.80	3.9	220
10	8,232	5,300	276	377	153	161	111	112	19	66.1	1.90	3.9	220
15	10,682	5,000	308	440	172	193	133	134	19	107.8	3.70	4.2	440
20	17,836	4,500	346	497	191	218	152	153	22.5	156.1	6.70	4.8	570
25	26,362	4,100	375	553	223	240	165	165	28	211.8	10.60	5.2	1100
30	33,418	3,750	410	610	254	258	178	178	31	274.5	16.50	5.4	1500
35	39,886	3,450	445	646	270	272	187	188	31	333.3	23.90	5.6	1700
40	46,216	3,300	470	686	274	297	205	206	34	399.2	30.70	6.3	1700
45	59,780	3,000	511	754	292	334	231	231	35.5	525.3	48.00	6.7	1700
50	74,676	2,800	556	800	292	363	254	254	37	676.3	72.90	7.3	3038
55	92,512	2,700	587	839	311	382	263	264	37.5	803.4	100.60	7.8	3528

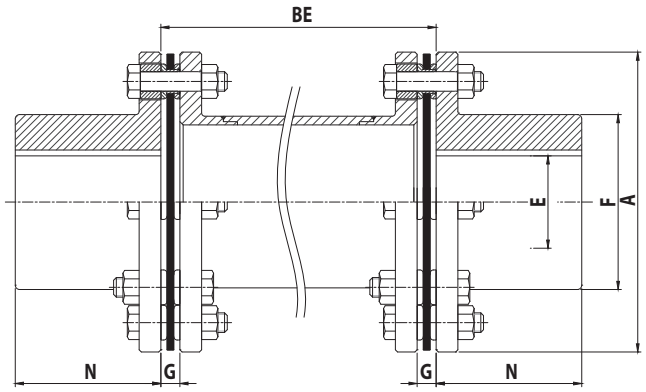
(1) A.D.O axial direction = allowable dispalcement of axial direction

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

Dimensions

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





SIZE	Torque (Nm)	MAX SPEED (RPM)	A(mm)	B(mm)	BE(mm)	F(mm)	E max (mm)	N(mm)	G(mm)	WEIGHT (kg)	GD² (kgf·m²)	A.D.O axial direction(1) ±mm	B.T Torque (Nm)(2)
01	3,841	7,200	214	333	117	137	95	108	12.2	38	0.65	2.1	72
03	7,115	6,300	246	369	127	156	108	121	13.7	55.5	1.24	2.1	160
05	8,967	5,600	276	421	153	161	111	134	17.5	72.2	1.80	2.1	220
10	10,780	5,600	276	421	153	161	111	134	19	73.3	1.80	2.1	220
15	15,386	5,000	308	492	172	193	133	160	19	119.7	3.70	2.4	440
20	25,578	4,500	346	557	191	218	152	183	22.5	174.3	6.80	2.9	570
25	37,730	4,000	375	619	223	240	165	198	28	233.8	10.80	3.1	11,100
30	47,138	3,750	410	682	254	258	178	214	31	305.3	16.70	3.3	1,500
35	57,036	3,450	445	720	270	272	187	225	31	367.4	25.00	3.6	1,700
40	64,386	3,300	470	768	274	297	205	247	34	447.5	31.10	4.0	1,700
45	83,594	3,000	511	848	292	334	231	278	35.5	591.6	48.00	4.5	1,700
50	103,194	2,800	556	902	292	364	254	305	37	761.4	74.70	5.0	3,038
55	128,086	2,700	587	945	311	382	263	317	37.5	901.9	101.60	5.2	3,528

(1) A.D.O axial direction = allowable dispalcement 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 Dmax(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	3060
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 Dmax(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		

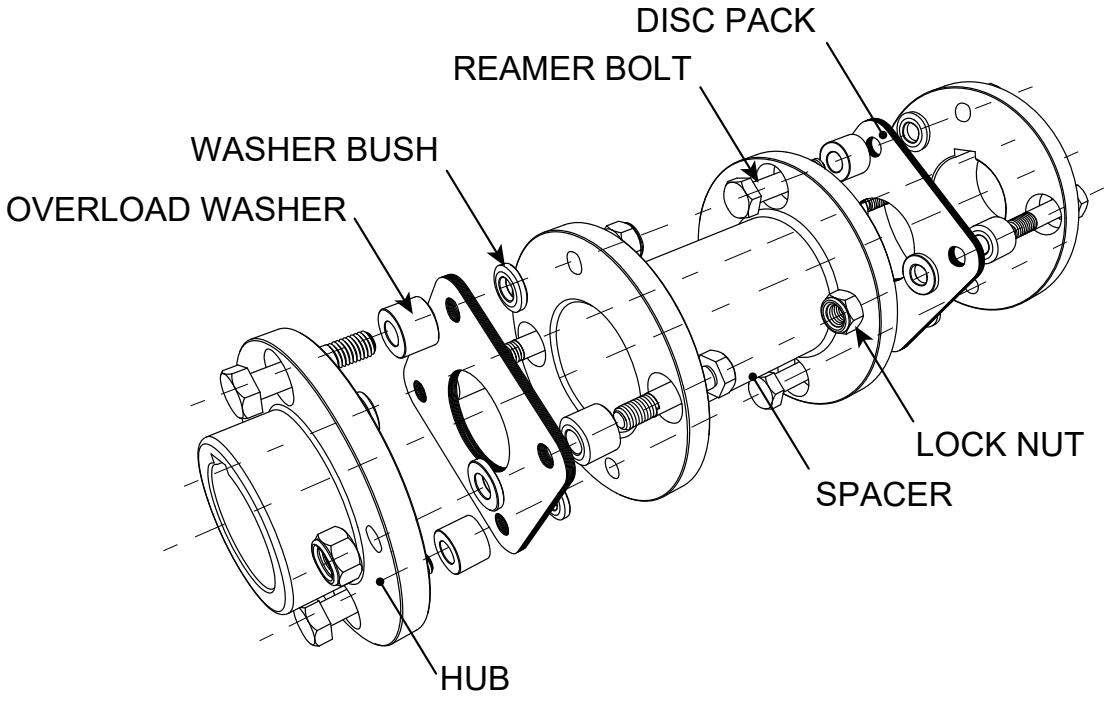
8 Bolts Type (P8-TYPE)

Maximum distance between shaft end Dmax(mm) for Various Speed(RPM)

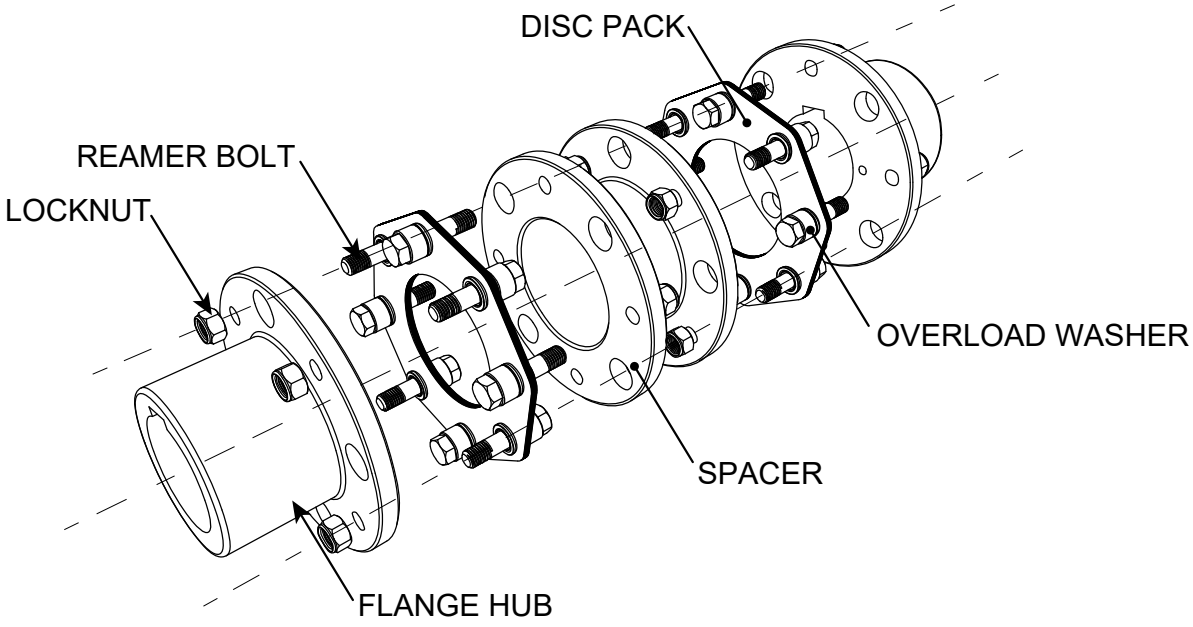
SIZE No.	Standard Hub	1800	1500	1200	1000	900	750	720	600	500
01	95	2890	3170	3540	3880	4090	4490	4570	5010	5500
03	108	3100	3400	3800	4160	4390	4820	4910	5370	5900
05	111	3100	3400	3800	4160	4390	4820	4910	5370	5900
10	111	3100	3400	3800	4160	4390	4820	4910	5370	5900
15	133	3230	3540	3960	4330	4560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

Assembly

Design features of 4 - bolt coupling



Design features of 6 - 12 bolt coupling

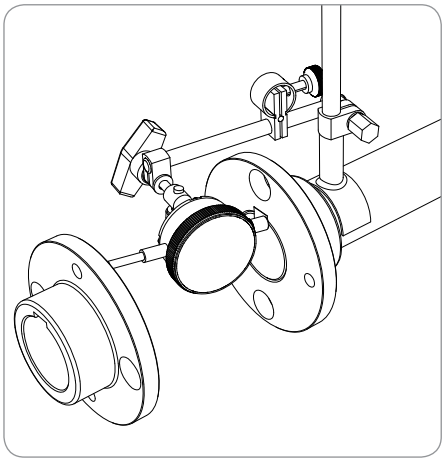


Installation

1 Check shaft and inner diameter to confirm whether there is no foreign material.

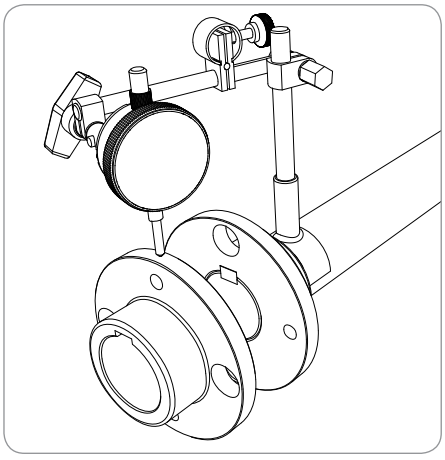
2 Check angular misalignment. (Fig. 1)

- Fix the dial gauge to one side, and then 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 it until reaching the minimum value.



3 Check parallel misalignment. (Fig. 2)

- For parallel misalignment of shaft, check the outer diameter dial gauge value of the driven hub while rotating the drive shaft.
- Adjust the value to within the maximum allowable value by moving the equipment or using the base plate.



4 Refer to the structural diagram on page 45, 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.