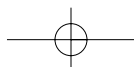
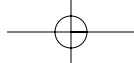


FLANGE FLEXIBLE COUPLING





PT COUPLINGS

FLANGE FLEXIBLE COUPLING

특징 및 장점

축과 축을 연결할 때 사용되는 PTC Flange Flexible Coupling은 간단하고 쉬운 분해조립, 저렴한 가격 등 필요한 여러 가지 조건을 갖고 있다.

1. 동력을 원활하게 전달한다.
2. 진동과 충격의 흡수능력이 우수하다
3. 육안점검이 가능하여 보수시기를 예측할 수 있다.
4. 구조가 간단하다.
5. 장착 및 분해 등 장비가 간단하고 쉽다.

용도

1. 진동, 충격의 전달을 방지해야 하는 곳.
2. 편심 또는 편각 또는 편심·편각이 발생한 상태에서 동력을 전달해야 하는 경우.
3. 축유동이 발생하는 연결 부위에서 정상적으로 동력을 전달하고자 할 때.
4. 정·역회전이 이루어지는 곳.
5. 충격 부하를 완화시켜 시동하고자 하는 경우.

■ 주요 사용기계

펌프, 송풍기, 압축기, 변속기, 감속기, 운반기기, 기중기
권상기, 화학기계, 건설기계 시멘트 Mixer, 트랙터
금속 가공기계, 압연기, Bending Machine, 섬유기계
방직기, 염색 사상기

구조 및 재질

PTC Flange Flexible Coupling의 구성 부품 재료는 다음과 같은 재질이다.

1. Flange Hub : KS D4301의 GC20 또는 KS D 3710의 SF45
2. Reamer Bolt : KS D 3752, SM45C
3. Nut : KS D 3503의 SS400
4. Spring Washer : KS D 3559의 HSWR62B 또는 HSWR5
5. Bush : KS M6617의 NBR(HS=70)
6. Plain Washer : KS D 3503의 SS400

Characteristic & Merit

When connecting the line shaft, flexible flange coupling has many requirements with simple assembly / disassembly and extremely lowest price.

1. Transmits power smoothly.
2. Absorb shock load and vibration.
3. Easy Replacement of parts.
4. Simple construction.
5. Easy assemble and disassembly

Application

1. To prevent the transmission under vibration and shock.
2. To transmit power under parallel misalignment or angular misalignment.
3. To transmit power under end floating.
4. When reverse revolution is required.
5. When smooth starting is required.

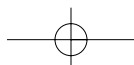
■ Principal use

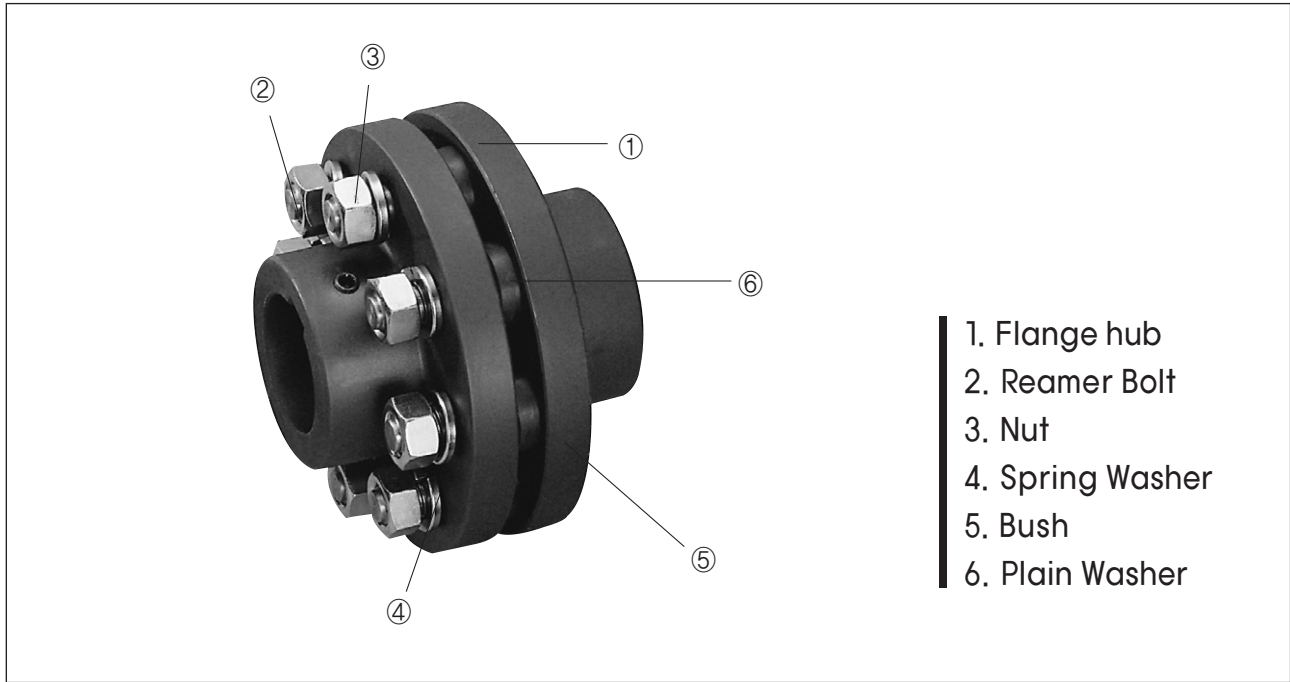
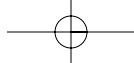
Pump, Blower, Compressor, Speed change gear, Converyor, Crane, Hoist, Chemical machine, Construction machine, Cement mixer, Tractor, Metal processing machine. Rolling mill, Bending machine, Textile machine, Spinning and weaving machinery.

Structure and Material

PTC Flange Flexible Coupling are as follows.

1. Flange Hub : KS D 4301 GC 20 or KS D 3701 SF 45
2. Reamer Bolt : KS D 3752, SM45C
3. Nut : KS D 3503 SS 400
4. Spring Washer : KS D 3559 HSWR62B or HSWR 5
5. Bush : KS M 6617 NBR(HS=70)
6. Plain Washer: KS D 3503 SS 400





규격선정방법

Structure and Material

1. 규격선정방법

1. Selection method of size

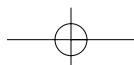
① 사용 Torque를 구한다.

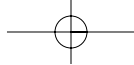
① From the flowing fomula obtain torque required for selection.

$$T = 97,400 \frac{H'}{N} \times S.F \text{ 또는 } T = 71,620 \frac{H}{N} \times S.F$$

T = 사용 torque(kg · cm)
 H' = 전달부하(kw)
 H = 전달마력 (HP)
 N = 회전수(rpm)
 S · F = 안전계수

T = Design torque(kg · cm)
 H' = Transmitted Power(kw)
 H = Transmitted Power(HP)
 N = Working revolution (rpm)
 S · F = Recommended Service Factor





PT COUPLINGS

- ② 산출된 Torque를 각 Size의 Basic Torque와 비교하여 크거나 같은 숫치를 찾아 1차 선정 후 사용기계의 Shaft와 Coupling 최대내경을 비교 검토한 다음 선정한다.
- ③ 선정시 주의 사항
 - A. 상용 N과 최저 N이 있을 때에는 최저 N으로 계산한다.
 - B. 상시 역회전이나 거듭되는 반복부하 또는 불연속적 작동을 하는 곳의 부하는 정상외의 경우보다 2배가 되어야 함을 유의하여야 한다.
 - C. 한 System내 상용마력과 Peak 마력이 존재하는 경우 Peak 마력으로 계산한다.

2. 규격선정예

50마력, 1,750회전의 Motor와 Vane Blower를 연결하고자 한다.
Motor의 축경은 42mm, Blower 쪽은 55mm이다.

- ① Vane Blower의 안전계수를 찾아보면 1.75이다.
- ② 상용전달 동력에 안전계수를 곱하여 Coupling의 설계 Torque로 사용한다.

$$\text{Torque(kg} \cdot \text{cm)} = \frac{30 \times 71.620 \times 1.75}{1.750} = 3,581$$

- ③ 전달 Torque 3,581kg · cm에 의해 1차로 224F를 선정한다.
224F의 내경 허용 범위가 35~63mm이므로 주어진 내경도 포함되어 가능하다. 또한 rpm을 비교하여 1,750rpm이 224F로 가능하므로 Coupling Size는 224F가 된다.
- ④ 아래의 Torque 산출선도 참조

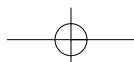
- ② Select the size by comparing with basic torque, which has the same of greater value. And then check it's suitability for application bore dia meter.
- ③ Caution for selections
 - A. Adopt the minimum N when there are both common transmitting N and minimum N.
 - B. Be careful that service factor of the reverse revolution and irregular operation must be twice to the normal condition.
 - C. Use the peak power, when there are both common transmitted power and peak power in a system.

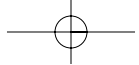
2. Example

Select a COUPLING to connect a 50HP, 1,750rpm motor and Vane Blower. Motor shaft dia is 42mm and Blower's 55mm.

- ① Service factor of Vane Blower is 1.75
- ② Multiply service factor times normal operating power. This will provide a Design Torque.

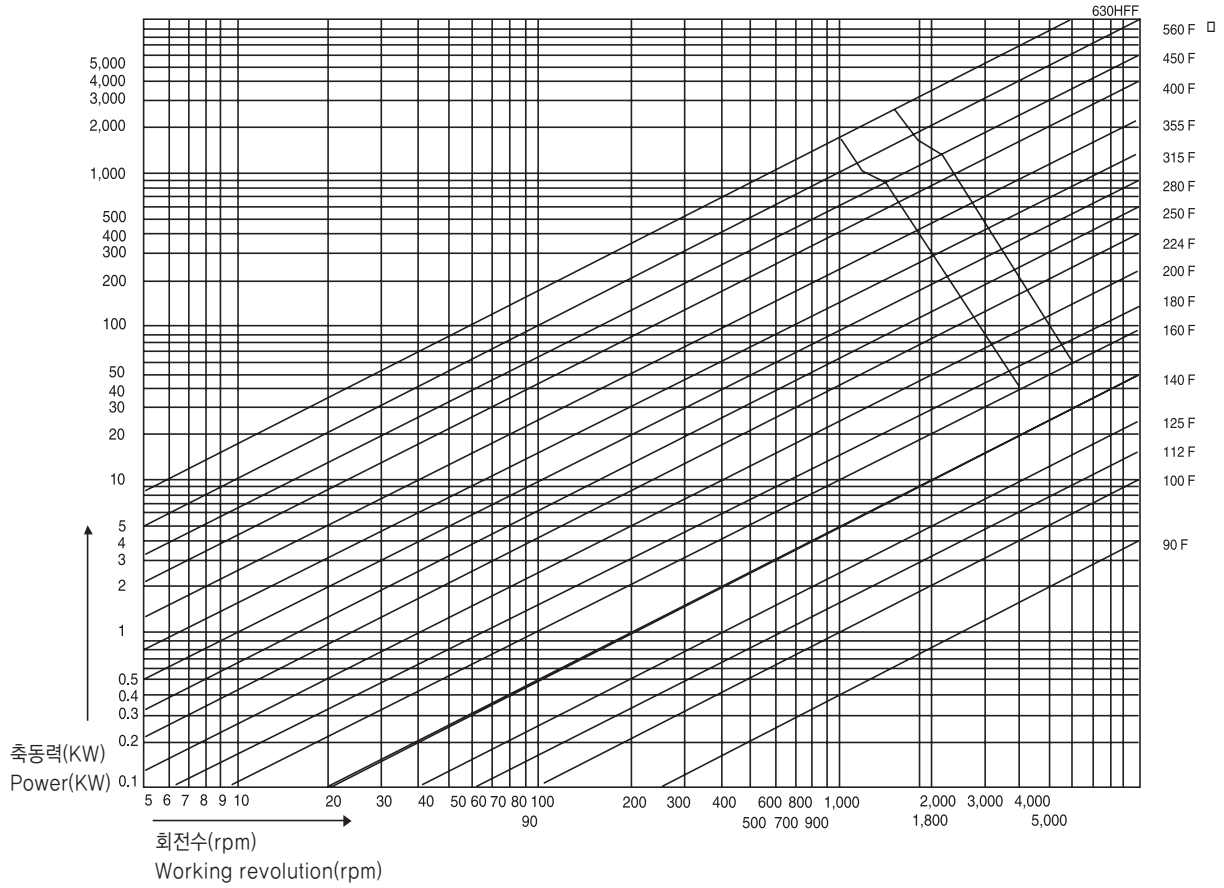
- ③ Size 224F is selected according to transmitting torque 3,581kg · cm. The size 224F allow the application Shaft Dia.
- ④ By comparing speed Max. rpm., the size 224F is also O.K





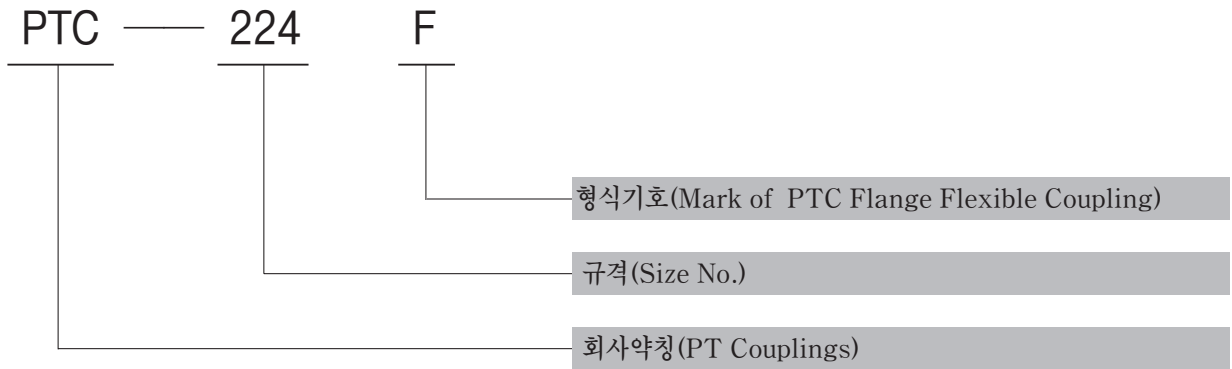
Torque 산출선도

Torque Diagram

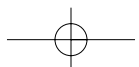


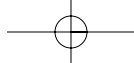
호칭

Designation



- F: Flange Flexible Coupling
- R: Rigid-Coupling
- S: Spacer Coupling





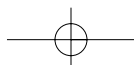
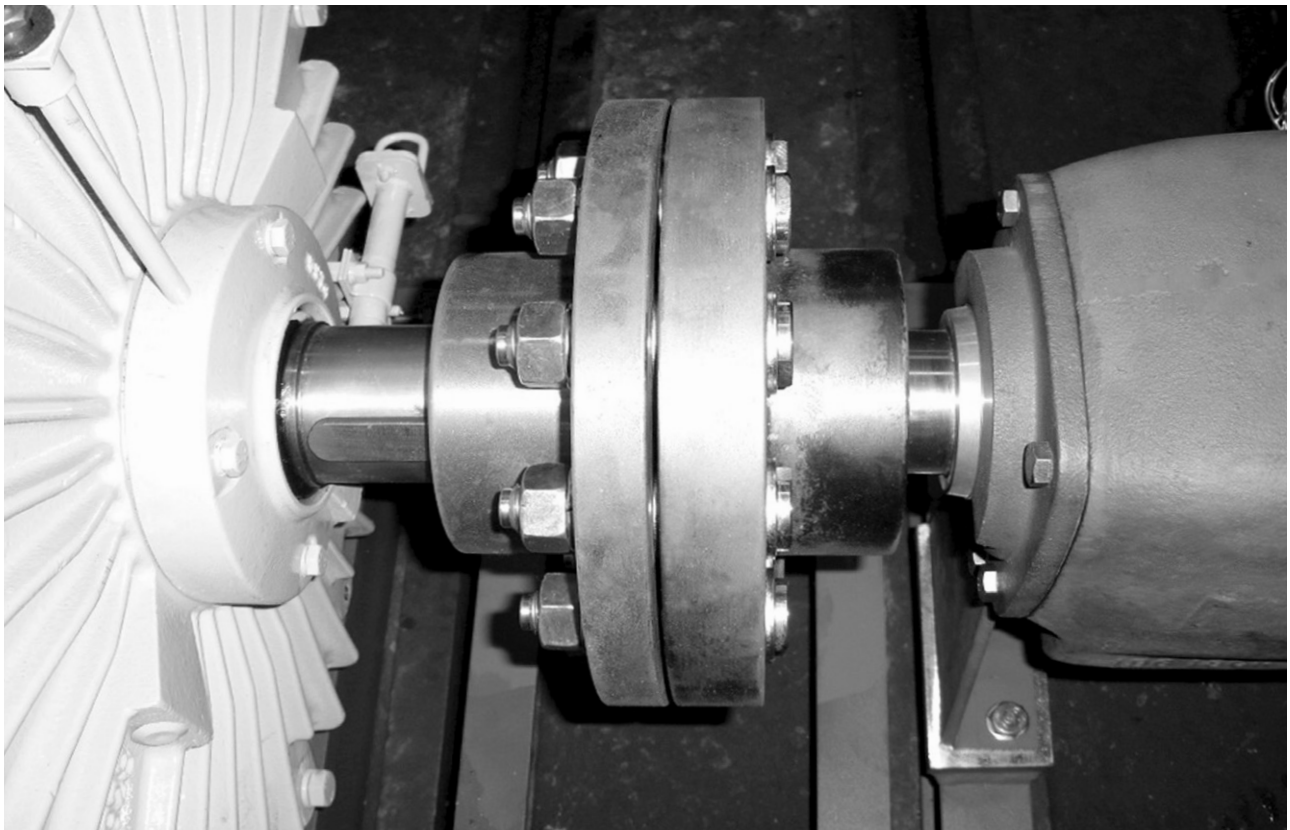
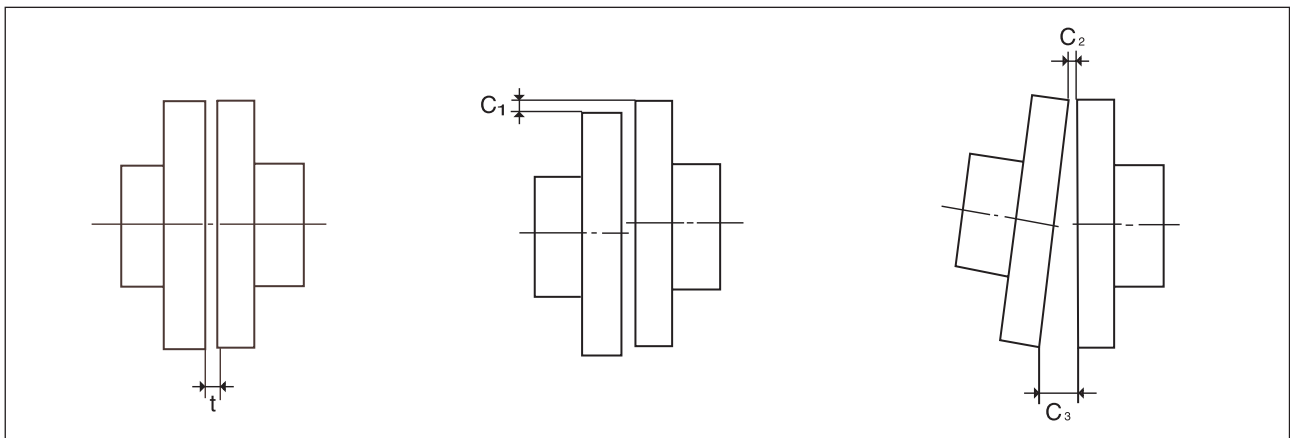
PT COUPLINGS

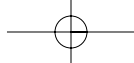
장착요령

1. Flange 외경의 상하 좌우가 꼭 맞고, 간격이 없는 경우 피동측과 원동측의 축심을 정확히 일치시켜야 한다.
2. 고무 Bush의 수명을 오래 유지하기 위해서는 아래의 그림과 같이 C1 및 C2, C3를 0.05mm 이내로 유지해야 한다.
3. 't'는 Washer 두께와 같이 한다.

Instruction for Installation

1. When Flange outside diameter fits tightly without gap, you must set the center of the driving and the driven shaft precisely.
- 2 To maintain rubber bush for a long time, make C1, C2, C3 within 0.05mm as the following figures.
3. The value of 't' is equirelent to thickness of washer.



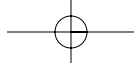


PF Type

	A	F	E	D	M	B	G	L
B6-01	18	14	9	8	8	14	3	50
B6-02	22	18	12	10	10	16	3	56
B6-03	31	25	16	14	12	18	3	64
B6-04	40	32	22.4	20	20	22.4	4	85
B6-05	50	40	28	25	24	28	4	100
B6-06	56	45	31.5	28	24	40	4	116
B6-07	71	56	40	35.5	30	56	5	150

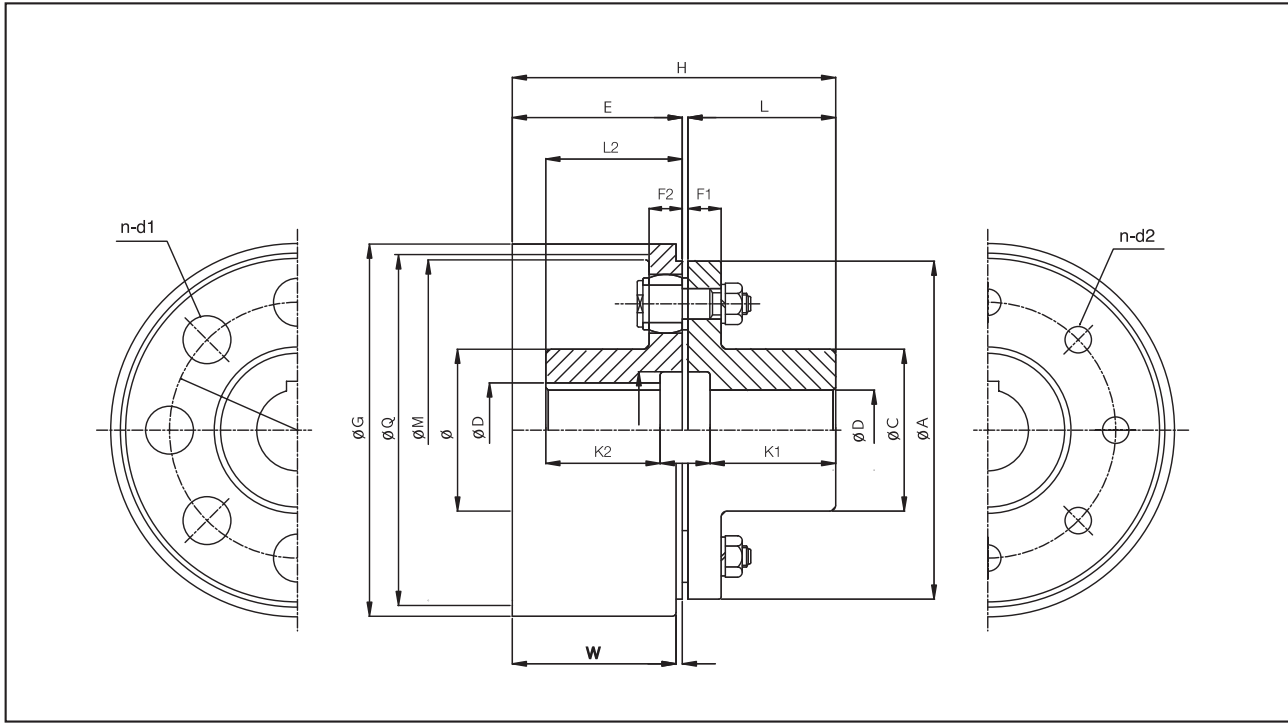
SIZE	HP per 100 rpm	Rated torque (kgf.cm)	Max speed (rpm)	Bore Dia (mm)		Dimensions(mm)											Cplg WT (kgf)	GD ² (kgf.m ²)		
				Max.		Min.	A	B	C1	C2	E	F1	F2	J	G	BOLT Hole				
				D1	D2											N			d1	d2
90F	0.07	50	4,000	20	-	90	59	35.5	60	14	28	3	4	19	8	1.4	0.00532			
100F	0.14	100	4,000	25	-	100	74	42.5	67	16	35.5	3	4	23	10	2.1	0.00948			
112F	0.23	161	4,000	28	16	112	83	50	75	16	40	3	4	23	10	2.7	0.0152			
125F	0.35	250	4,000	32	28	125	93	56	50	85	18	45	3	4	32	14	3.5	0.0258		
140F	0.67	501	4,000	38	35	140	103	71	63	100	18	50	3	6	32	14	4.9	0.0422		
160F	1.56	1,120	4,000	45	25	160	115	80	115	18	56	3	8	32	14	6.8	0.0741			
180F	2.24	1,607	3,500	50	28	180	129	90	132	18	63	3	8	32	14	9.6	0.121			
200F	3.50	2,503	3,200	56	32	200	146	100	145	22.4	71	4	8	41	20	13.2	0.241			
224F	5.59	4,003	2,850	63	35	224	164	112	170	22.4	80	4	8	41	20	18.4	0.384			
250F	8.80	6,302	2,550	71	40	250	184	125	180	28	90	4	8	51	25	26.0	0.720			
280F	14	10,032	2,300	80	50	280	204	140	200	28	40	100	4	8	57	28	36.5	1.29		
315F	22	16,071	2,050	90	63	315	228	160	236	28	40	112	4	10	57	28	49.1	2.12		
355F	35	25,032	1,800	100	71	355	255	180	260	35.5	56	125	5	8	72	35.5	74.9	4.42		
400F	56	40,031	1,600	110	80	400	255	200	300	35.5	56	125	5	10	72	35.5	94.3	7.10		
450F	88	63,018	1,400	125	90	450	285	224	355	35.5	56	140	5	12	72	35.5	127.8	11.5		
560F	140	100,030	1,150	140	100	560	325	250	450	35.5	56	160	5	14	72	35.5	206.3	27.3		
630F	223	160,028	1,000	160	110	630	365	280	530	35.5	56	180	5	18	72	35.5	277.0	44.1		





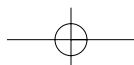
PT COUPLINGS

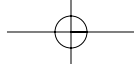
Brake Drum Couplings (PB)



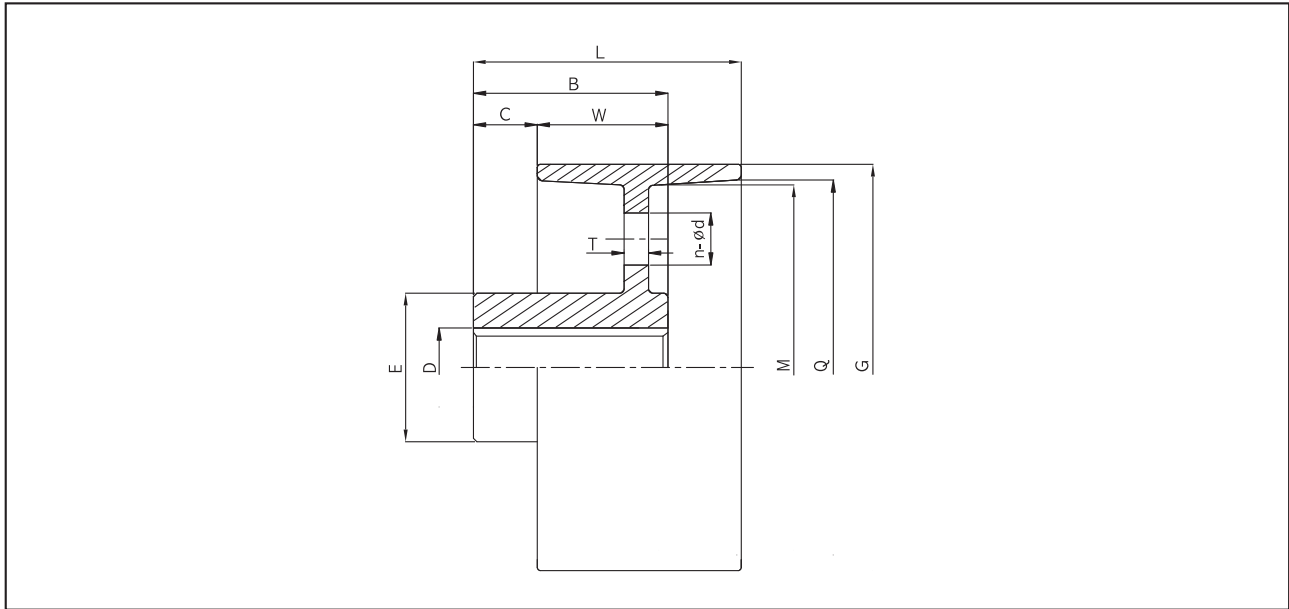
1. 치수 F1, F2, B 및 트 트는 지 락시 치수의 치수와 같습니다.
(지 외경치수 A가 같은 치수일 때)
2. 재질 : GCD450 (지 및)
. 허용토크는 지 락시 치수의 토크와 같습니다. (지 외경치수 A가 같은 치수일 때)

G	(mm)																	(kgf)	GD ² (kgf·m ²)
	(D)		W	S	E	L1	L2	H	T	C	1	2		M		A			
	max	min																	
160	37	20	80	4	84	95	76	182	3	63	82	63	29	43	140	145	140	9	0.2
200	53	28	100	4	104	128	96	235	3	90	112	80	35	60	178	184	180	19	0.3
250S	66	35	125	4	129	128	106	261	4	112	112	90	36	75	224	230	224	34	0.8
250L	66	35	125	4	129	158	106	291	4	112	142	90	36	75	224	230	224	36	0.81
315	75	40	160	4	164	158	128	326	4	125	142	112	36	85	285	292	250	57	2.4
355	84	50	180	4	184	160	130	348	4	140	142	112	40	95	320	330	280	80	4.3
400	95	63	200	4	204	190	158	398	4	160	172	140	40	105	362	374	315	110	6.8
450	105	71	224	4	228	195	163	428	5	180	172	140	51	125	410	422	355	160	13.6
500	115	80	250	4	254	235	183	494	5	200	212	160	51	135	445	462	400	250	26
560	130	90	280	4	284	240	188	529	5	224	212	160	61	150	495	516	450	310	42
762	165	110	362	4	366	240	208	611	5	280	212	180	61	190	690	710	630	580	160



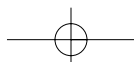


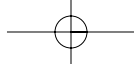
Brake Wheel



1. 재질 : GCD450
2. 진동을 고려하여 전부위에 정밀가공을 실시하였으므로 별도의 바란싱은 필요하지 않습니다.

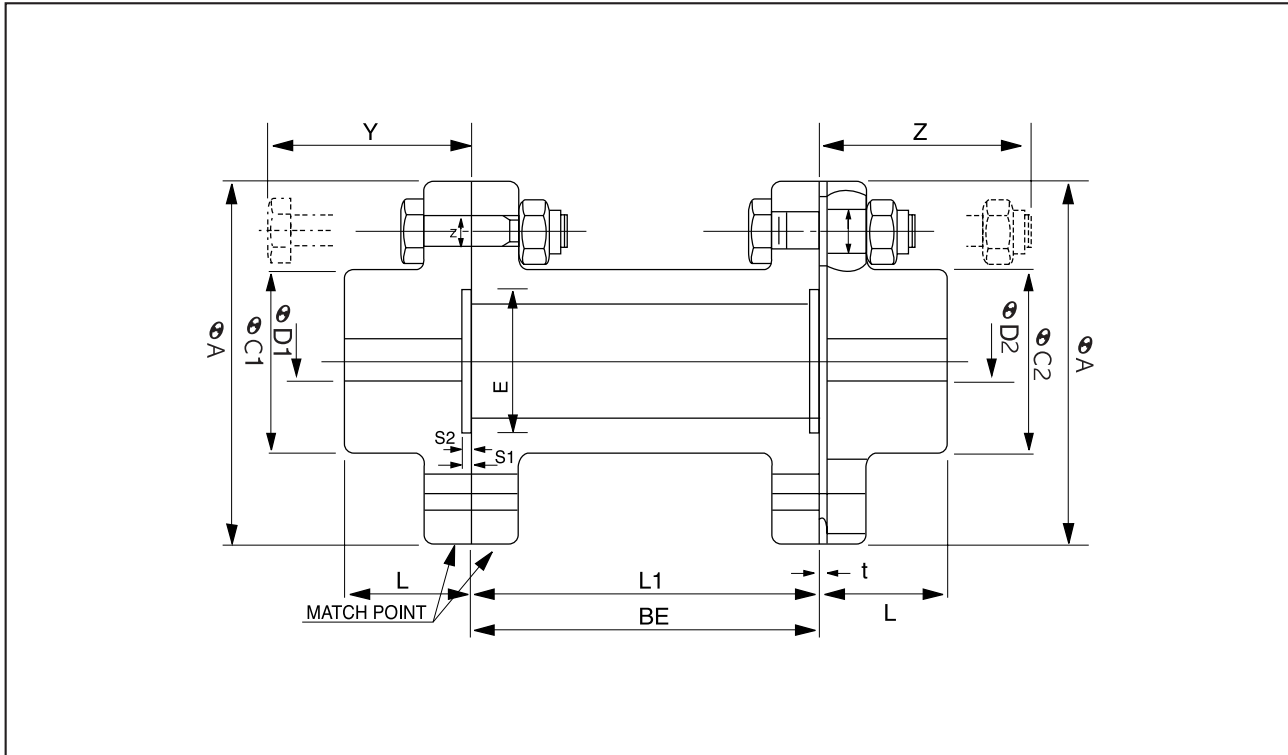
G	(mm)												(kgf)	GD ² (kgf m ²)
	(D)		G	W	C	L	B	E	M	T	N-d			
	max	min												
160	37	20	160	80	32	112	82	63	140	145	16		6	0.07
200	48	28	200	100	32	132	112	80	178	184	16		10	0.21
250	60	35	250	125	32	157	112	100	224	230	16	2-30	18	0.57
315	60	40	315	160	35	195	112	100	285	292	20	2-30	29	1.7
355	67	50	355	180	40	220	142	112	320	330	20	2-40	40	3.1
400	75	63	400	200	40	240	142	125	362	374	25	2-40	60	5.5
450	96	71	450	224	55	279	172	160	410	422	25	2-40	85	9.4
500	108	80	500	250	60	310	212	180	445	462	28	2-40	130	18.0
560	120	90	560	280	65	345	212	200	495	516	28	2-40	180	33.0
762	135	110	762	362	80	442	212	224	690	710	35	2-40	340	124.0





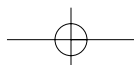
PT COUPLINGS

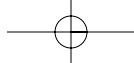
<Type PF00-S>



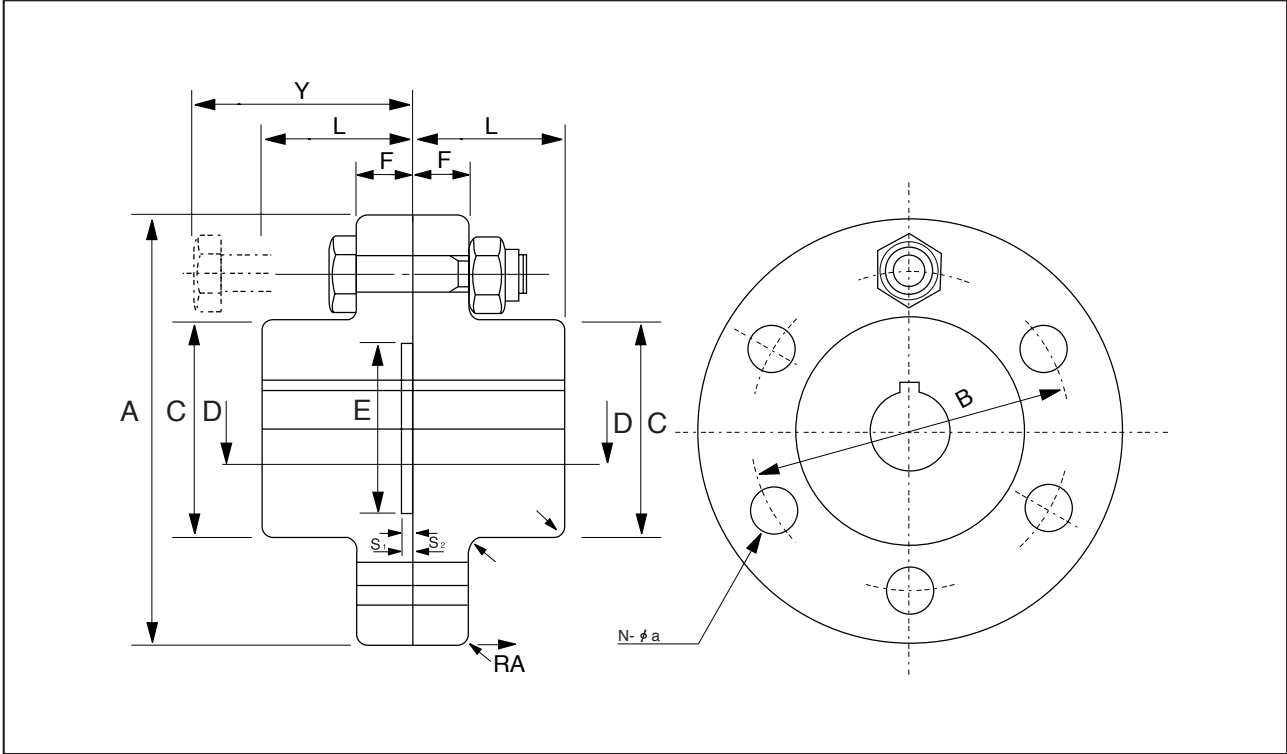
■ Type PF00-S

Size	Rating Torque (kgf · m)	Max. Speed (rpm)	Dimensions(mm)							Dimensions(mm)			
			Bore Diameter			A	BE	L ₁	T	For rigid		For rigid	
			Min.	Max. D ₁ D ₂						N	Size a ₁ ×ℓ	N	Size a ₁ ×ℓ
125×BE	2.5	4,000	18	32	28	125	100	97	3	4	14×53L	4	14×64L
140×BE	5	4,000	20	38	35	140	100,140	97,137	3	6	14×53L	6	14×64L
160×BE	11.2	4,000	25	45		160	100,140	97,137	3	8	14×53L	8	14×64L
180×BE	16	3,500	28	50		180	100,140,180	97,137,177	3	8	14×53L	8	14×64L
200×BE	25	3,200	32	56		200	140,180,220	136,176,216	4	8	16×67L	8	20×85L
224×BE	40	2,850	35	63		224	140,180,220	136,176,216	4	8	16×67L	8	20×85L
250×BE	63	2,550	40	71		224	140,180,220,260	136,176,216,256	4	8	20×82L	8	25×100L
280×BE	100	2,300	50	80		280	180,220,260,300	176,216,256,296	4	8	20×82L	8	28×116L
315×BE	160	2,050	63	90		315	180,220,260,300	176,216,256,296	4	10	20×82L	10	28×116L





<Type PF00-R>



■ Type PF00-R

Size A×F	Rating Torque (kgf·m)	Max. Speed (rpm)	Dimensions(mm)											Weight (kgf)	GD ² (kgf-m ²)	
			Bore D		A	L	C	B	F	N-a	Spigot and Socket					Y
			Min.	Min.							E	S ²	S ¹			
112R	6.3	4,000	16	28	112	40	50	75	16	4-10	40	2	3	70	2.78	0.0163
125R	9	4,000	18	32	125	45	56	85	18	4-14	45	2	3	81	3.76	0.0276
140R	18	4,000	20	38	140	50	71	100	18	6-14	56	2	3	81	5.06	0.0449
160R	35.5	4,000	25	45	160	56	80	115	18	8-14	71	2	3	81	6.98	0.0788
180R	50	3,500	28	50	180	63	90	132	18	8-14	80	2	3	81	9.23	0.129
200R	71	3,200	32	56	200	71	100	145	22.4	8-16	100	3	4	103	14.4	0.255
224R	100	2,850	35	63	224	80	112	170	22.4	8-16	100	3	4	103	18.4	0.405
250R	140	2,550	40	71	250	90	125	180	28	8-20	112	3	4	126	27.8	0.763
280R	200	2,300	50	80	280	100	140	200	28	8-20	125	3	4	126	38.9	1.37
315R	280	2,050	63	90	315	112	160	236	28	10-20	140	3	4	126	51.2	2.23
355R	400	1,800	71	100	355	125	180	260	35.5	8-25	160	3	4	157	81.4	4.67

