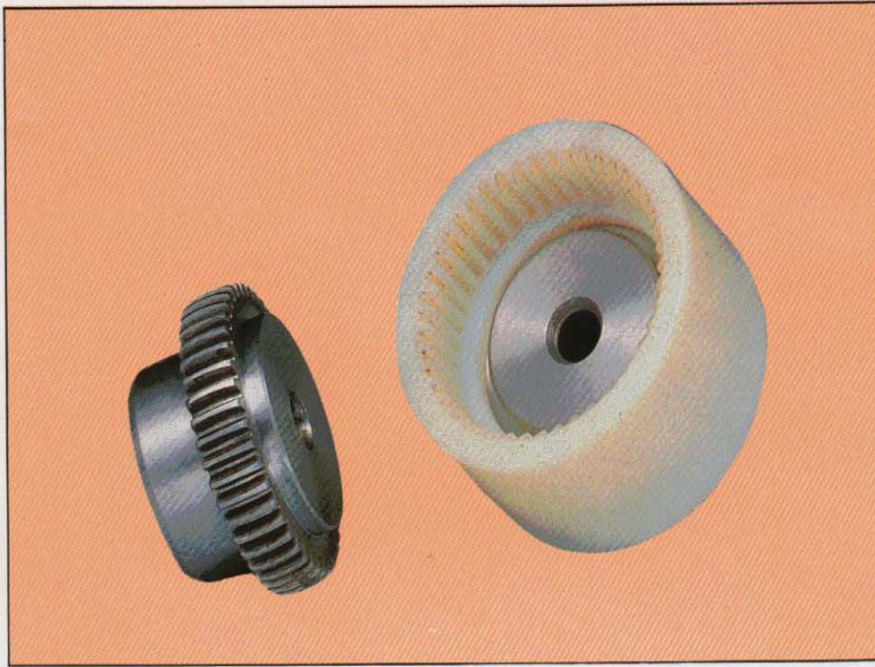




V. HYPER FLEX COUPLINGS

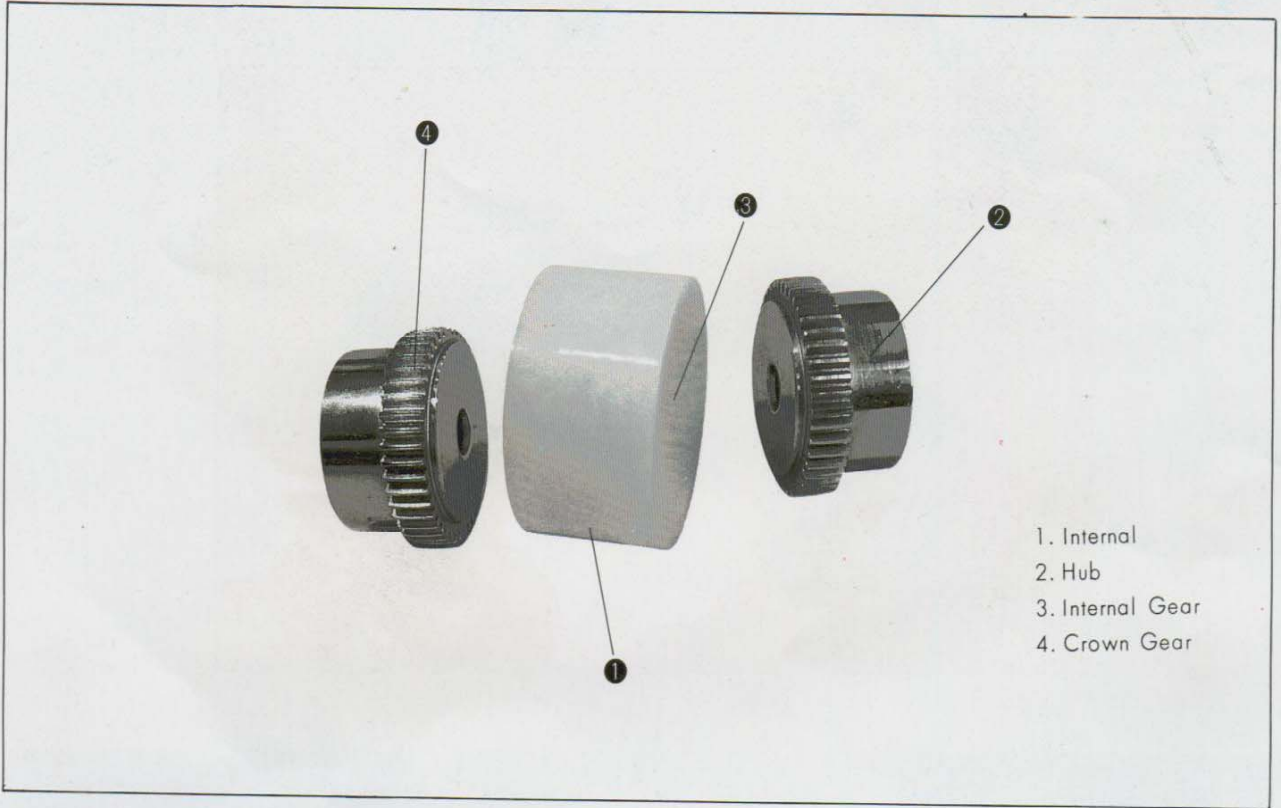


1 특징 및 장점 (Characteristic and Merit)

- 1) 평행오차, 각도오차, 복합오차에 대해 원활하게 대응하여 작동되며 어떠한 경우에도 동력을 100% 전달할 수 있다.
- 2) 양 Cardanic 형식이기 때문에 각속도에 주기적인 파동이 없고 일정하여 작동효율이 높다.
- 3) Internal이 특수재질로 되어 있기 때문에 수명이 길다.
- 4) 장착시간이 절약되고 보수 및 부품 교환이 간단하다.
- 5) 주유가 필요없다.
- 6) 소음이 적다.
- 7) 내유성, 내열성이 좋다.

- 1) It always transmits the power fully (100%) under parallel, angular, complex misalignment with flexibility.
- 2) With angular and parallel displacements the reactive forces may be neglected, thanks to the twin cardanic method of operation, and there are no periodic fluctuations in angular velocity.
- 3) Internals have longer life by using special materials.
- 4) Assembly is extremely simple and time saving, it is simple to mend and exchange parts.
- 5) Not Require lubrication.
- 6) Low noise.
- 7) Oil and heat resistance.

2 구조 (Structure)



3 규격 선정방법 (Selection Method of Size)

1) 사용 Torque를 아래의 식으로 구한다.

$$T = 97,400 \frac{KW}{N} \times S \cdot F \text{ 또는 } T = 71,620 \frac{HP}{N} \times S \cdot F$$

1) From the following formula, obtain torque required for selection

N = 회전수 (Working revolution) rpm

S · F = 안전계수 (Service Factor)

52페이지 참조 (Refer to page 52)

① 구동 기계의 최대 Torque가 Coupling의 최대 Torque를 초과하지 않도록 안전하게 Coupling을 선택한다.

① The coupling should be selected in such a way as to ensure that the maximum starting torque of the driving or driven machine will not exceed the maximum torque for the coupling.

② Shaft의 조정이 잘되고 작용부하가 일정하게 되면 Coupling은 Torque의 최대치까지도 수용할 수가 있다.

② With uniform loading and well aligned shafts the coupling can be employed at all torque values up to maximum.

③ 만약 Torque의 특성이 불규칙하면, H. S. T. Coupling은 규정 Torque의 3배에 달하는 일시적인 과부하를 받게 될지도 모른다.

③ If the torque characteristic is irregular the H.S.T Nylon Coupling may be subjected to transient peak loads corresponding to 3 times the listed rated torque.

2) 산출된 Torque를 각 규격의 Basic Torque와 비교하여 크거나 같은 수치를 찾아 1차 규격을 선정 후, 내경 가공의 적합 유무를 확인한다.

2) First select same or greater size from comparing with basic torque of each size and calculated torque, and then suitability of boring driver.

Size	***overall Length of assembled coupling (mm)	Distance between shaft 'E' (mm)	Max. axial displacement (mm)	**Max. permissible displacements		Size
				radial (mm)	angular (a°)	
14NS	50	4	±1	±0.3	±1 Per hub	14NS
19NS	54					19NS
24NS	56					24NS
28NS						28NS
32NS	84			±0.4		32NS
38NS						38NS
42NS	88					42NS
48NS	104					48NS
65NS	144					65NS
80NS	186			6		±0.6
100NS	228	8	±0.7	100NS		
125NS	290	10	±0.8	125NS		
			±1.1			

1) Hub를 조립할 때는 반드시 Shaft끝을 청결히 해야 한다.

1) The assembled hubs must in all cases be flush with the shaft ends.

2) 'E'값을 결정하기 어려우면 Shaft 끝이 Hub의 안쪽 목부분까지 닿을때의 전체길이를 이용한다.

2) If the dimension 'E' is difficult to determine, the overall length can be used if the shaft ends finish at the inner collar of the hub.

3) * Coupling마다 정해진 'E'값은 지켜야 하며, 특히 평행변위 또는 각도 변위가 존재할 때는 반드시 지켜야 한다.

3) *The stated dimension 'E' for the individual couplings must be maintained, especially in the presence of parallel or angular misalignment.

4) ** 허용변위치는 속도, 출력 그리고 용량에 따라 다르다.

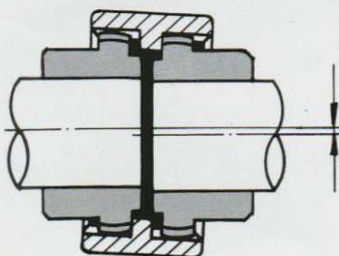
4) **The permissible misalignment values are dependent on speed and power outputs and capacity.

5) *** Coupling Sleeve는 실제 축 방향으로 움직인다.

5) ***It is essential that the coupling sleeves slide easily in the axial direction

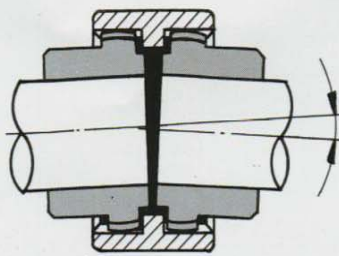
6) Shaft Alignment의 정확도는 Coupling의 수명을 연장시킨다.

6) Accurate alignment of shaft lengthens the life of the coupling.



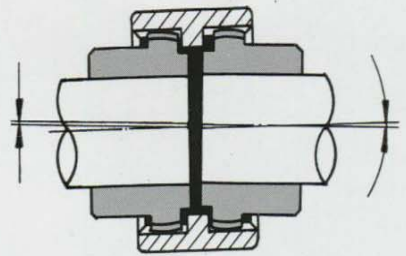
평행오차

(Parallel displaced shafts)



각도오차

(Shafts subject to angular displacement)

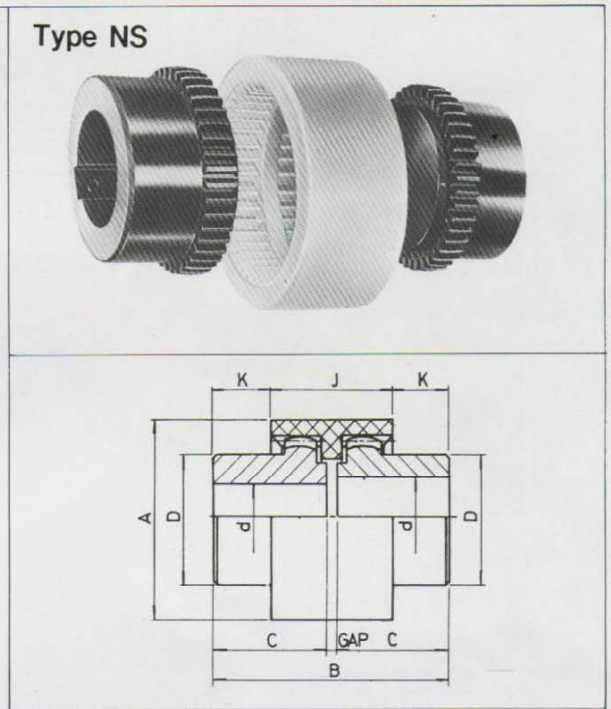
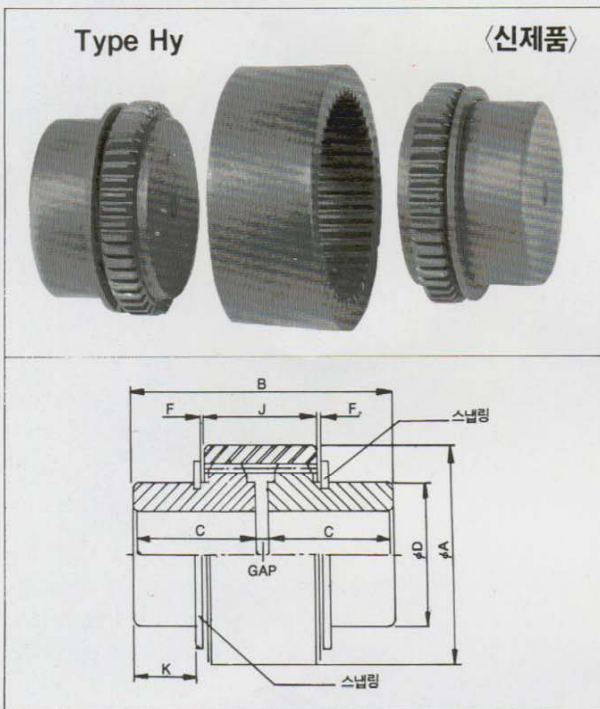


복합오차

(Shafts subject to both Parallel and angular displacement)

Type HY (Standard HYPER-FLEX Coupling)

Size	HP Per 100 rpm	Max. Speed (rpm)	Basic Torque (Kg·cm)	Bore Dia (mm)		Dimensions(mm)							
				Max.	Min.	A	B	C	D	J	F	K	Gap
14HY	0.24	14,000	175	14	6	40	50	23	25	26	1	9.65	4
19HY	0.43	11,800	306	19	8	48	54	25	32	26	1	11.35	4
24HY	0.52	10,600	374	24	10	52	56	26	36	26	1	12.1	4
28HY	0.98	8,500	701	28	10	66	84	40	45	36	1	21.1	4
32HY	1.28	7,500	916	32	12	76	84	40	50	36	1	20.8	4
38HY	1.81	6,700	1,293	38	14	83	84	40	58	40	1	18.8	4
42HY	2.33	6,000	1,670	42	20	92	88	42	65	40	1	20.3	4
48HY	2.88	5,600	2,064	48	20	100	104	50	68	44	1	26.3	4



Type NS (Standard HYPER-FLEX Coupling)

Size	HP Per 100 rpm	Max. Speed (rpm)	Basic Torque (Kg·cm)	Bore Dia. (mm)		Dimensions(mm)						
				Max.	Min.	A	B	C	D	J	K	Gap
14NS	0.24	14,000	175	14	6	40	50	23	25	37	6.5	4
19NS	0.43	11,800	306	19	8	48	54	25	32	37	8.5	4
24NS	0.52	10,600	374	24	10	52	56	26	36	41	7.5	4
28NS	0.98	8,500	701	28	10	66	84	40	44	46	19	4
32NS	1.28	7,500	916	32	12	76	84	40	50	48	18	4
38NS	1.81	6,700	1,293	38	14	83	84	40	58	48	18	4
42NS	2.33	6,000	1,670	42	20	92	88	42	65	50	19	4
48NS	2.88	5,600	2,064	48	20	100	104	50	68	50	27	4
65NSL	6.22	4,000	4,452	65	25	140	144	70	96	72	36	4
80NSL	9.86	3,150	7,060	80	30	175	186	90	124	93	46.5	6
100NSL	18	3,000	12,701	100	40	210	228	110	152	102	63	8
125NSL	39	2,120	28,055	125	50	270	290	140	192	134	78	10