ROTARY Joints & Mechanical Seals

韓國다이노工業株式會社
KOREA TAINO CO., LTD.

Rotary Joint의 품번 해설

D R 10 0 1 40A 20A

분류

D	표준품
B	준표준품
O	특수품
A	5 · B의 수리품
T	0의 수리품

분류

R	ROTARY JOINT

기본형식

10	Bellows 삽입평면 seal
11	Bellows 삽입평면 seal
20	Aluminium Body
22	황동 Body
30	무주유형 Ductile 주철재 Body
40	무주유형 Ductile 주철재 Body

HEAD 형상

0	복식내관고정
1	단식 L형
2	복식내관회전
3	기타

SHAFT 형상

1	PT RH
2	PT LH
3	PF RH
4	PF LH
5	FLANGE
6	M RH
7	M LH
8	N P T
9	기타

호칭치수

내관의 치수

사용상의 주의점

로타리 조인트의 사용상 주의점은 그 씰면에 이물질이 들어가지 않도록 할 것이며, 그 외에

1. 로타리 조인트를 롤 또는 드럼에 부착하는 형상은 "나사식"과 "FLANGE식"이 있고, 어떤 방향에서도 롤이나 드럼의 회전 중심에 맞게 부착하는 것이 중요합니다. "나사식"에는 롤 또는 드럼의 회전의 방향에 대하여 역방향의 나사를 사용합니다. 롤 또는 드럼의 회전이 로타리 조인트의 부착 방향에서 볼 때 시계방향(우회전)일 경우 좌나사, 반시계방향(좌회전)일 경우 우나사를 사용하여 주십시오.
2. 로타리 조인트와 배관과의 연결에는 후렉시블 호스나 나이론 호스 등의 유연성이 있는 것을 사용하여 주십시오. 강관에서 직접 배관하여 조인트를 구속시키는 것을 피하여 주십시오.
3. 로타리 조인트에 밸브 등의 중량이 걸리는 배관은 피하여 주십시오.
4. 로타리 조인트의 회전 방지구는 조인트의 회전을 방지하는 이외의 구속은 피하여 주십시오.
5. 로타리 조인트의 내부에 볼 베어링을 사용하여 구리스의 급유를 하며, 부착 최초로부터 3개월까지는 1주마다 1회, 3개월 이후는 3주마다 1회 정도의 급유가 필요합니다.(고온에 사용시 고온구리스를 사용하십시오.)
6. 떨어뜨리거나 해머로 치는 등의 충격을 피하여 주십시오.
7. 비닐포장을 풀어서 보관할 때는 습기나 먼지 등 이물질의 유입에 유의하여 주십시오.

주문방법

주문시에는 다음의 사항을 알려 주십시오.

1. 사용할 로타리 조인트의 형식, 구경(복식의 경우 내관 Size 포함) 및 나사방향 또는 부착할 기계의 회전 방향(로타리 조인트가 부착되는 방향에서 본 회전 방향) 및 회전수
2. 유체의 명칭과 압력 및 온도(상용 및 최고)
3. 로타리 조인트를 부착할 기계의 명칭
4. 기타 특수 사항에 대해서는 폐사 담당자에게 상세히 알려 주십시오.

포화증기표 kg/㎠ ab(절대압력)

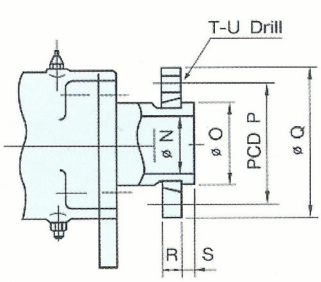
℃	0	1	2	3	4	5	6	7	8	9
100	1.03	1.07	1.11	1.15	1.19	1.23	1.28	1.32	1.37	1.41
110	1.46	1.51	1.56	1.61	1.67	1.72	1.78	1.84	1.90	1.96
120	2.02	2.09	2.16	2.22	2.29	2.37	2.44	2.52	2.59	2.67
130	2.75	2.84	2.92	3.01	3.10	3.19	3.29	3.38	3.48	3.58
140	3.69	3.79	3.90	4.01	4.12	4.24	4.36	4.48	4.60	4.73
150	4.85	4.99	5.12	5.26	5.40	5.54	5.69	5.84	5.99	6.14
160	6.30	6.46	6.63	6.80	6.97	7.15	7.33	7.51	7.69	7.88
170	8.08	8.27	8.48	8.68	8.89	9.10	9.32	9.54	9.76	9.99
180	10.23	10.46	10.70	10.95	11.20	11.46	11.72	11.98	12.25	12.52
190	12.80	13.08	13.37	13.66	13.96	14.27	14.57	14.89	15.20	15.53
200	15.86	16.19	16.53	16.88	17.23	17.59	17.95	18.32	18.69	19.07
210	19.46	19.85	20.25	20.65	21.06	21.48	21.90	22.33	22.77	23.21
220	23.66	24.12	24.58	25.05	25.52	26.01	26.50	27.00	27.50	28.01
230	28.53	29.06	29.59	30.13	30.68	31.24	31.86	32.38	32.96	33.54

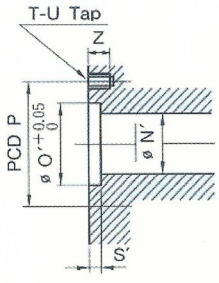
- kg/㎠g(Gauge)은 도표의 치수보다 1.03을 빼주십시오.
- 절대압력(ab)과 Gauge압력(g)의 지시가 없는 경우는 [증기는 절대압력], [공기는 Gauge압력]으로 간주합니다.
- 진공으로 Akg/㎠이라면 절대압력으로는 1.03-Akg/㎠이 됩니다.

제품의 Flange 규격

R1000 · R2000 · R2200
R2300 · R3000 · R4000(공통)

기호 \ 치수	N′	O′	P	S′	T	U′	Z
15A	12	25	45	7	4	M8	12
20A	18	30	54	7	4	M10	16
25A	24	35	60	8	4	M10	16
40A	34	50	75	8	4	M10	16
50A	48	65	95	9	4	M12	19
65A	60	80	110	11	4	M12	19
80A	73	90	125	11	6	M12	19
100A	100	120	165	11	6	M16	25

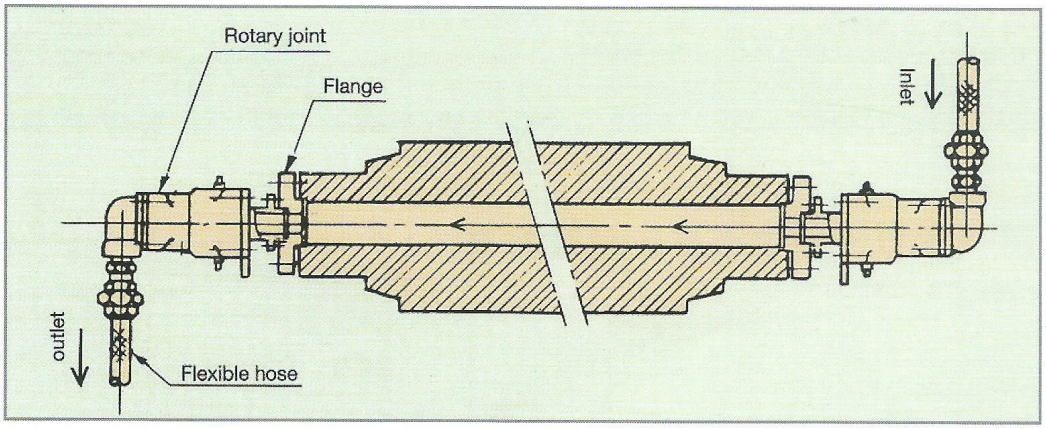




How to use Rotary Joints 사용법

Rotary Joints는 구조상으로 단식, 복식으로 대별합니다. 그 사용의 대표적인 예를 각 형식별로 설명해 드리겠습니다.

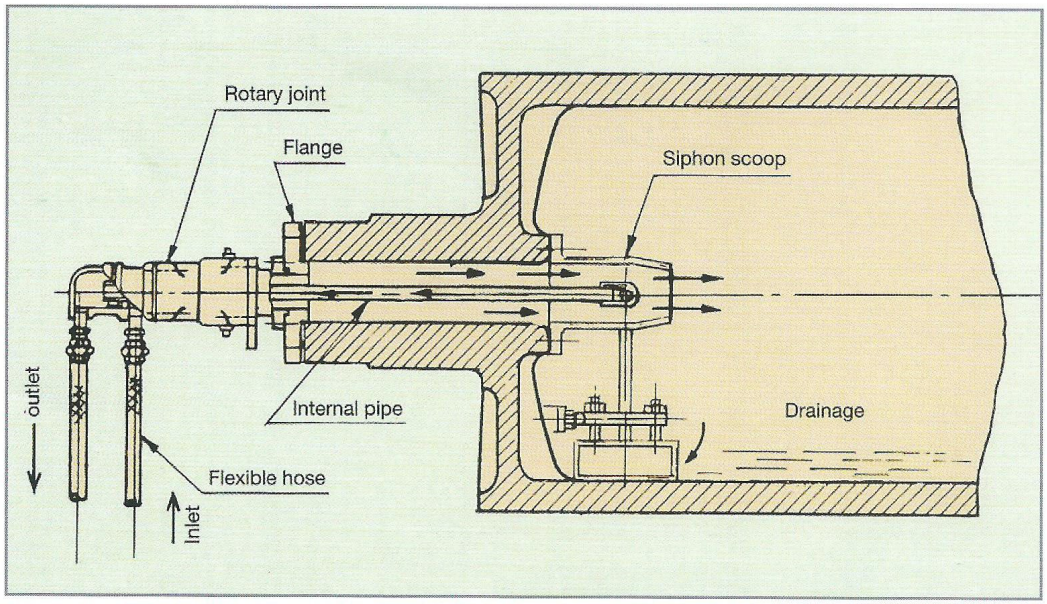
단식



회전하는 Roller나 Drum 등의 한쪽 방향에서 〈냉각수〉, 〈Oil〉 또는 〈Steam〉을 공급하고 반대측으로 배출하는 경우에 사용됩니다.

■ 대표예 ① 필림 냉각 인취 Roll
② 제지용 Calender Roll
③ 제철기계 Roll

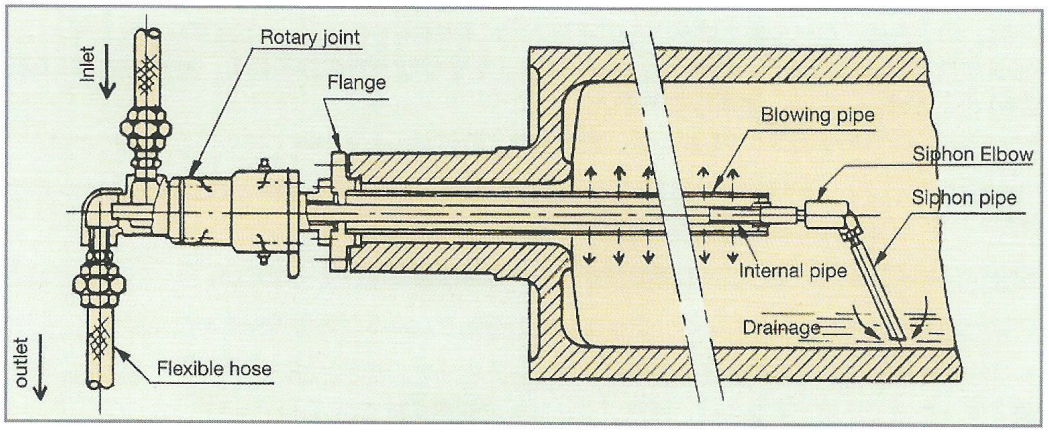
복식(내관회전식) Rotating Internal Pipe

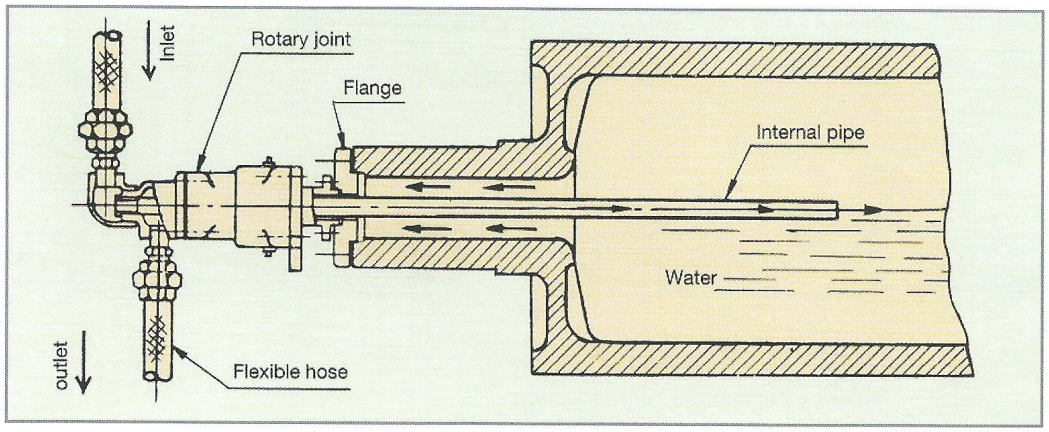


회전하는 Roller나 Drum 등의 내부에 〈Steam〉, 〈냉각수〉, 〈온수〉 또는 〈Hot Oil〉을 공급하고 같은 방향으로 배출하며 내관도 동시에 회전할 필요가 있을 경우에 사용됩니다.

■ 대표예 ① 초지 Dryer
② Super Calender

복식(내관고정식) Fixed Internal Pipe





회전하는 Roller나 Drum 등의 내부에 〈Steam〉, 〈냉각수〉 또는 〈Oil〉을 공급하고 같은 방향으로 배출시키는 경우에 사용됩니다.

우상도는 주로 Steam용으로 사용되는 예로서 Drain은 내관을 통하여 배출됩니다.

- **대표예** ① 초지 Dryer
  ② Plastic Calender

우하도는 주로 〈냉각수〉나 〈열매 Oil〉용으로 사용되는 예입니다.

- **대표예** ① Mixing Roll
  ② Film 냉각 인취 Roll
  ③ Plastic Extruder

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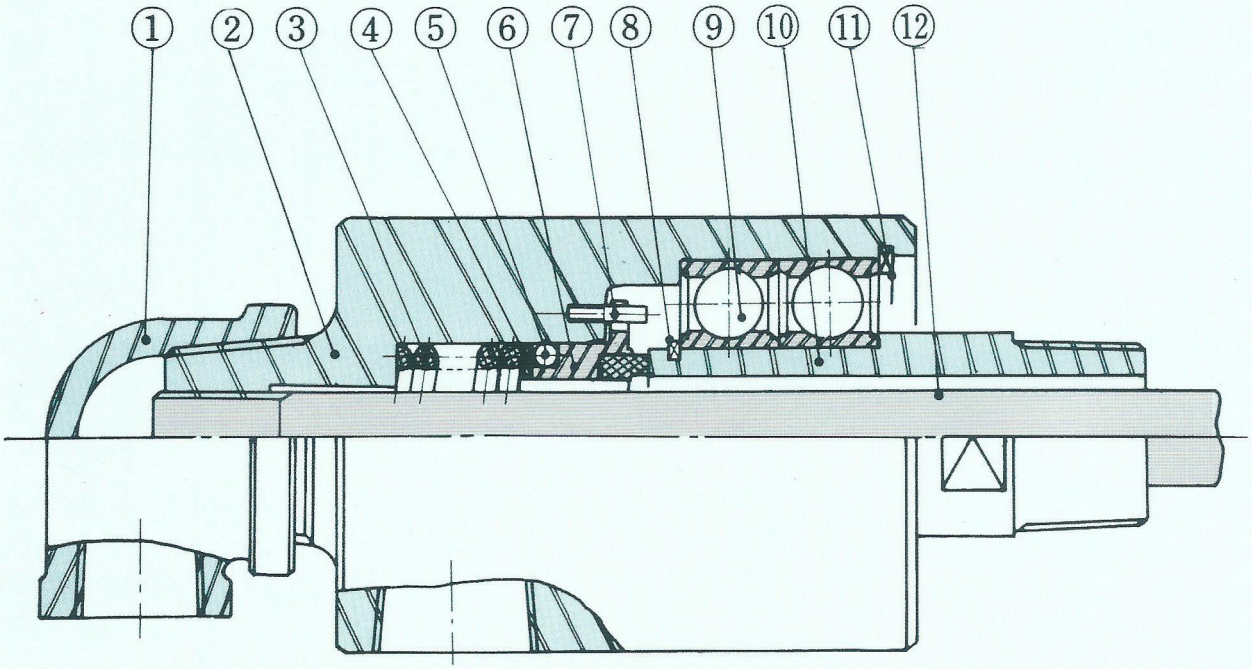
DR 2000 SERIES
TYPE ROTARY JOINT의 구조



① ELBOW	⑤ O-RING	⑨ BALL BEARING(ZZ)
② CASE	⑥ SEAL RING	⑩ ROTOR SLEEVE
③ SPRING	⑦ LOCK PIN	⑪ SNAP RING
④ COMP. RING	⑧ SNAP RING	⑫ SIPHON PIPE

사용조건

- 사용유체 : Air, Gas, Water, Oil
- 최고사용온도 : ~100°C
- 최고사용압력 :7kg/cm²G
- 최고회전수 : 6A~ 25A : 1,500 r.p.m
  32A~50A : 1,000 r.p.m

특 징

- 하우징이 강력 알미늄 또는 황동으로 제작되어 경량이므로 취부가 쉽다
- 2Z Ball Bearing의 구조이므로 완전 무급유로 사용할 수 있다.
- 최고품질의 특수카본을 사용하여 제작되었으므로 수명이 길다.
- 회전저항이 적으며 고속회전 사용이 가능하다.

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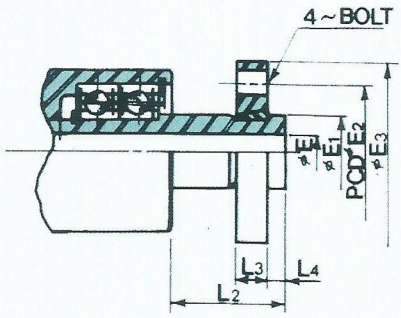
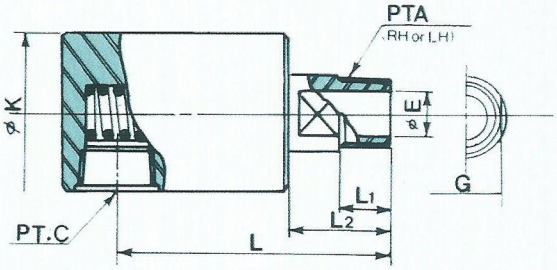
DR 2000 SERIES
TYPE DIMENSION TABLE (mm)

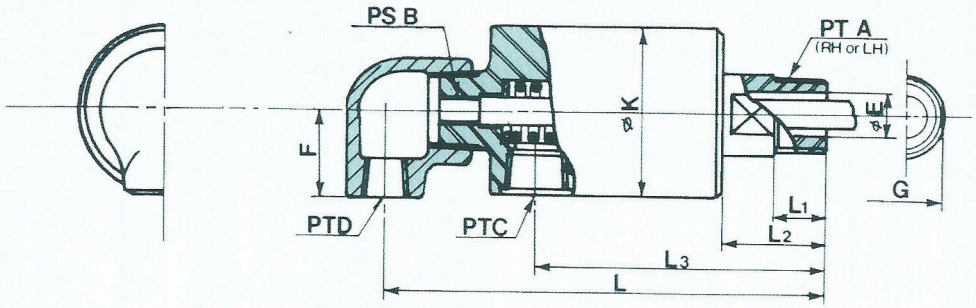
단식 MONO FLOW DR 2210 / DR 2215 - F TYPE





CODE / SIZE	A (in)	C (in)	E	E1	E2	E3	K	L	L1	L2	L3	L4	G	BOLTS
08A (1/4B)	1/4	1/4	6	-	-	-	43	74	15	25	-	-	14	-
10A (3/8B)	3/8	3/8	9	-	-	-	48	81	18	29	-	-	17	-
15A (1/2B)	1/2	1/2	12	25	45	62	55	91	20	32	11	8	21	M8
20A (3/4B)	3/4	3/4	16	30	54	74	62	108	22	41	13	8	26	M10
25A (1B)	1	1	20	35	60	80	73	114	23	43	14	9	32	M10
32A (1¼B)	1¼	1¼	30	45	75	96	93	135	28	50	16	9	42	M10
40A (1½B)	1½	1½	35	50	75	96	98	140	28	50	16	9	46	M10

복식 DOUBLE FLOW DR 2200 / DR 2205 - F TYPE



CODE / SIZE	A (in)	B (in)	C (in)	D (in)	E	F	K	L	L1	L2	L3	G
15A - 06A (1/2B - 1/8B)	1/2	1/8	1/2	3/8	12	30	55	143	20	32	91	21
20A - 08A (3/4B - 1/4B)	3/4	1/4	1/2	1/2	16	36	62	164	22	41	108	26
25A - 10A (1B - 3/8B)	1	3/8	3/4	1/2	20	38	73	176	23	43	114	32
32A - 15A (1¼B - 1/2B)	1¼	1/2	1	3/4	30	41	93	206	28	50	135	42
40A - 20A (1½B - 3/4B)	1½	3/4	1	3/4	34	44	98	215	28	50	140	46
50A - 25A (2B - 1B)	75	1	1½	1	48	53	124	230	30	55	162	58

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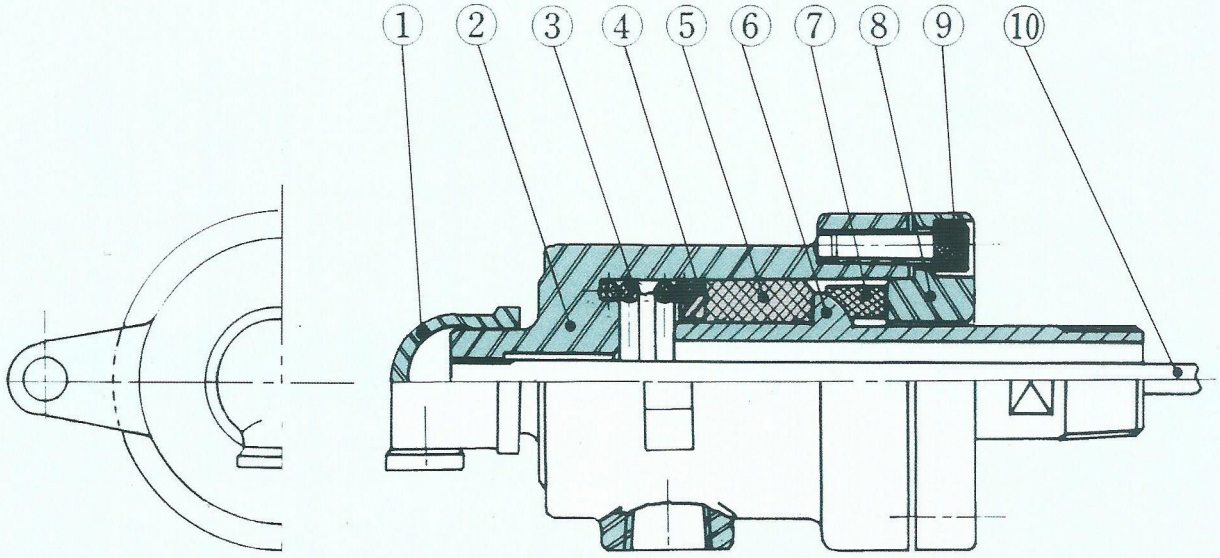
DR 3600 SERIES

TYPE ROTARY JOINT의 구조



① ELBOW
② HOUSING
③ SPRING
④ HOLDER
⑤ DRY BEARING
⑥ ROTOR SLEEVE
⑦ SEAL RING
⑧ COVER
⑨ WRENCH BOLT
⑩ SIPHON PIPE

사용조건

- 사용유체 : Steam, Heat Oil, Hot Water
- 최고사용온도 : 300° C
- 최고사용압력 :15kg/cm²G
- 최고회전수 :15A~ 40A : 300 r.p.m
  50A~100A: 100 r.p.m

특 징

- 카본 Bearing을 사용하므로 무급유 사용 및 보수가 편리합니다.
- 고온 · 고압에서 사용가능하며 내마모성이 우수합니다.
- 구조가 비교적 간단하여 보수가 편리합니다.
- 비교적 고속회전에서도 사용이 가능합니다.

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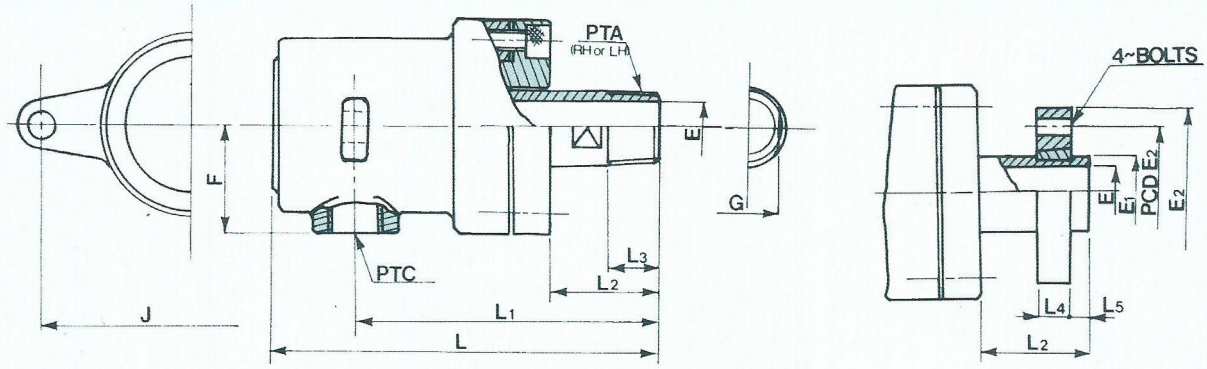
DR 3600 SERIES

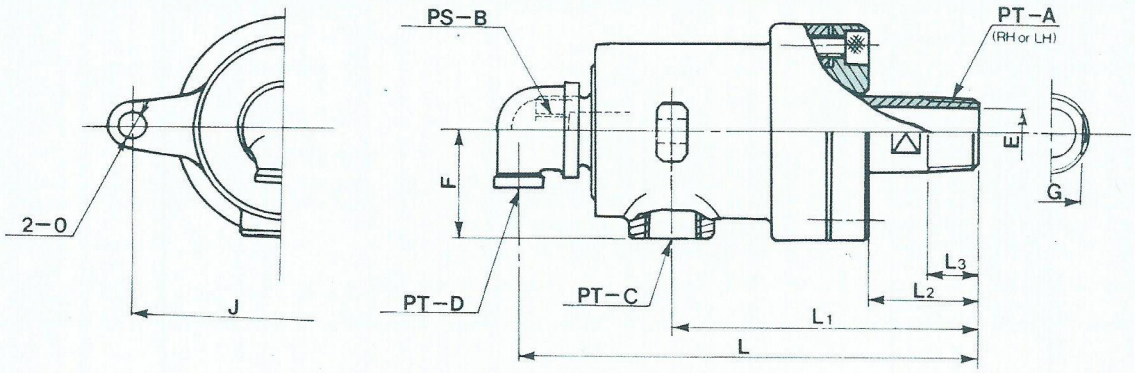
TYPE DIMENSION TABLE (mm)

단식 MONO FLOW DR 3610 / DR 3615 - F TYPE



CODE / SIZE	A (in)	C (in)	E	E1	E2	E3	L	L1	L2	L3	L4	L5	F	G	J	BOLTS
15A(1/2B)	1/2	1/2	14	25	45	62	145	115	45	18	11	8	40	21	110	M8
20A(3/4B)	3/4	3/4	19	30	54	74	170	140	50	20	13	8	45	26	120	M10
25A(1B)	1	1	23	35	60	80	175	145	50	20	14	9	50	32	140	M10
32A(1¼B)	1¼	1¼	30	45	75	96	205	170	55	25	16	9	55	42	150	M10
40A(1½B)	1½	1½	35	50	75	96	210	175	60	25	16	9	65	46	160	M10
50A(2B)	2	2	48	60	95	120	245	205	65	25	19	10	75	58	175	M12

복식 DOUBLE FLOW DR 3600 / DR 3605 - F TYPE



CODE / SIZE	A (in)	B (in)	C (in)	D (in)	E	F	L	L1	L2	L3	G	J	O
15A - 06A (1/2B - 1/8B)	1/2	1/8	1/2	1/2	14	40	180	115	45	18	21	110	10
20A - 08A (3/4B - 1/4B)	3/4	1/4	1/2	1/2	19	45	210	140	50	20	26	120	12
25A - 10A (1B - 3/8B)	1	3/8	3/4	1/2	23	50	220	145	50	20	32	140	12
32A - 15A (1¼B - 1/2B)	1¼	1/2	1	3/4	30	55	265	170	55	25	42	150	14
40A - 20A (1½B - 3/4B)	1½	3/4	1	3/4	35	65	270	175	60	25	46	160	14
50A - 25A (2B - 1B)	2	1	1½	1	48	75	315	205	65	25	58	175	18

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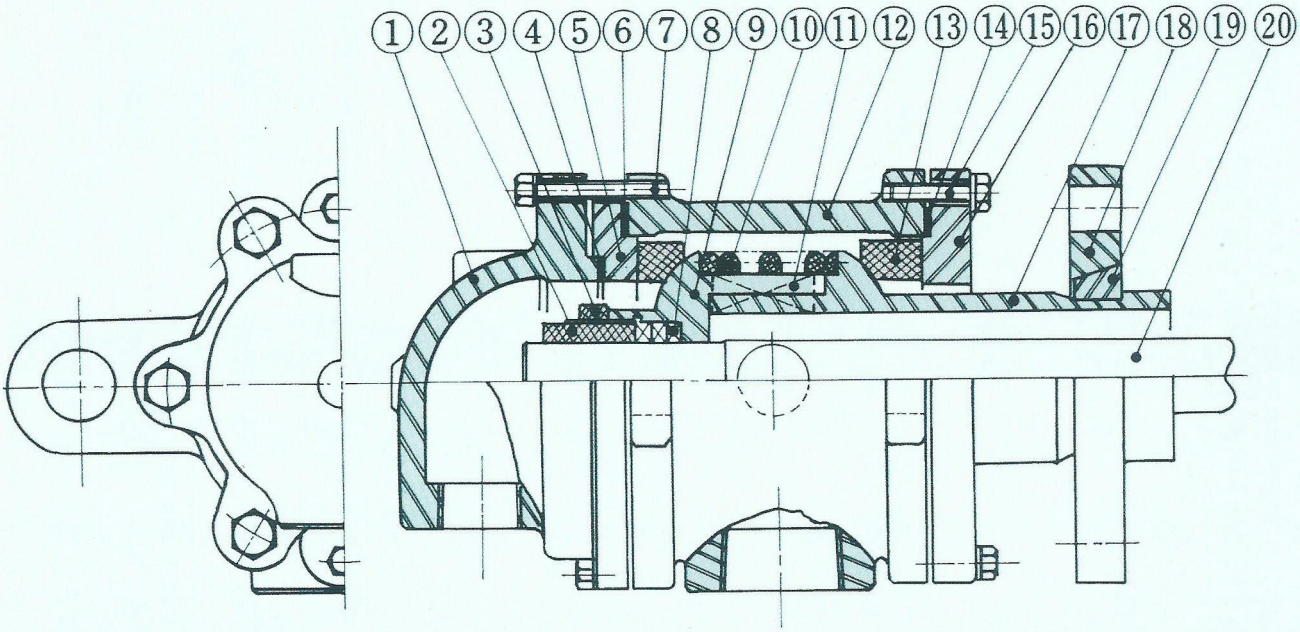
DR 3800 SERIES
TYPE ROTARY JOINT의 구조



① HEAD	⑧ PACKING	⑮ HEX. BOLT
② PACKING CLAMP	⑨ COLLAR	⑯ COVER
③ LOCK NUT	⑩ SPRING	⑰ ROTOR SLEEVE
④ GASKET	⑪ KEY	⑱ FLANGE
⑤ SEAL PLATE	⑫ CASE	⑲ SPLIT RING
⑥ GASKET	⑬ SEAL RING	⑳ SIPHON PIPE
⑦ HEX. BOLT	⑭ GASKET	

사용조건

- 사용유체 : Steam, Heat Oil, Hot Water
- 최고사용온도 : 300° C
- 최고사용압력 :18kg/cm²G
- 최고회전수 : 50A~ 100A : 300 r.p.m
  125A~150A : 150 r.p.m

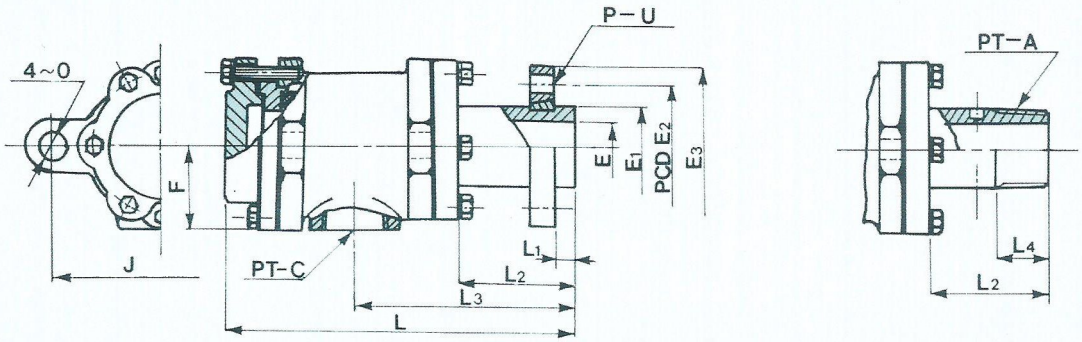
특 징

- 무급유형으로 보수가 용이합니다.
- 고온 · 고압에서 사용가능하며 내마모성이 특히 우수합니다.
- 구조가 간단하여 보수가 편리합니다.
- 비교적 고속회전에서도 사용이 가능합니다.

TAINO CO., LTD.

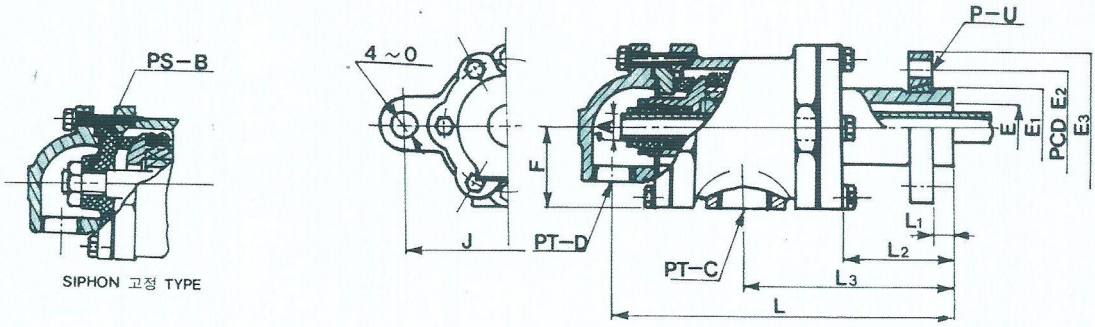
DR 3800 SERIES
TYPE DIMENSION TABLE (mm)

단식 MONO FLOW DR 3810 / DR 3815 - F TYPE



CODE / SIZE	A (in)	C (in)	E	E1	E2	E3	L	L1	L2	L3	L4	F	J	O	P-U
50A (2B)	2	2	48	60	100	130	237	25	80	150	25	75	200	200	4-M12
65A (2½B)	2½	2½	61	76	120	150	266	25	85	165	28	85	220	220	4-M12
80A (1B)	3	3	72	88	145	190	300	25	100	190	28	100	250	250	4-M16
90A (3½B)	3½	3½	85	100	150	195	337	25	105	210	28	115	280	280	4-M16
100A(4B)	4	4	95	115	170	220	406	30	120	257	30	130	325	325	4-M16
125A(5B)	5	5	118	140	200	250	445	30	130	270	30	150	380	380	4-M18

복식 DOUBLE FLOW DR 3800 / DR 3805 - F TYPE



CODE / SIZE	A (mm)	B (in)	C (in)	D (in)	E	E1	E2	E3	L	L1	L2	L3	F	J	P-U
50A - 25A (2B - 1B)	33	1	1½	1	48	60	100	130	265	25	80	150	75	200	4-M12
65A - 25A (2½B - 1B)	33	1	2	1	61	76	120	150	290	25	85	165	85	220	4-M12
80A - 32A (3B - 1¼B)	42	1¼	2½	1¼	72	88	145	190	341	25	100	190	100	250	4-M16
90A - 40A (3½B - 1½B)	48	1½	3	1½	85	100	150	195	370	25	105	210	115	280	4-M16
100A - 50A (4B - 2B)	60	2	3½	2	95	115	170	220	442	30	120	257	130	325	4-M16
125A - 65A (5B - 2½B)	75	2½	4	2½	118	140	200	250	510	30	130	270	150	380	4-M18

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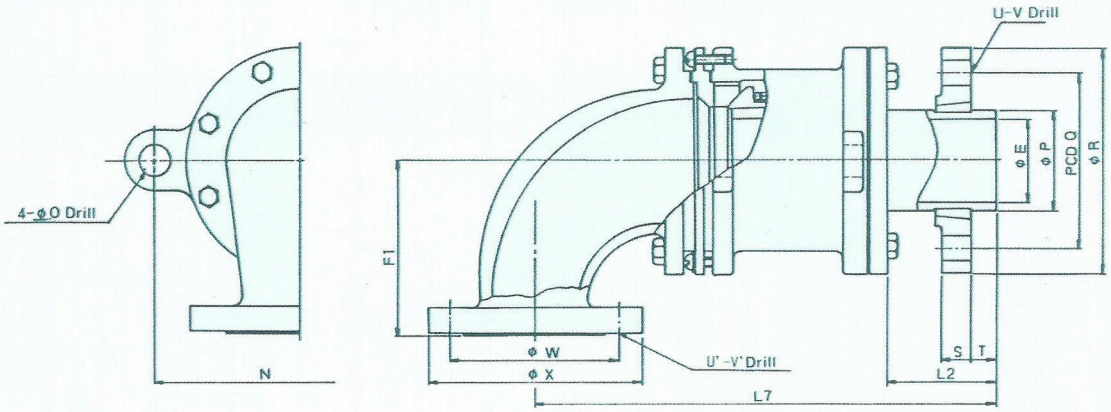
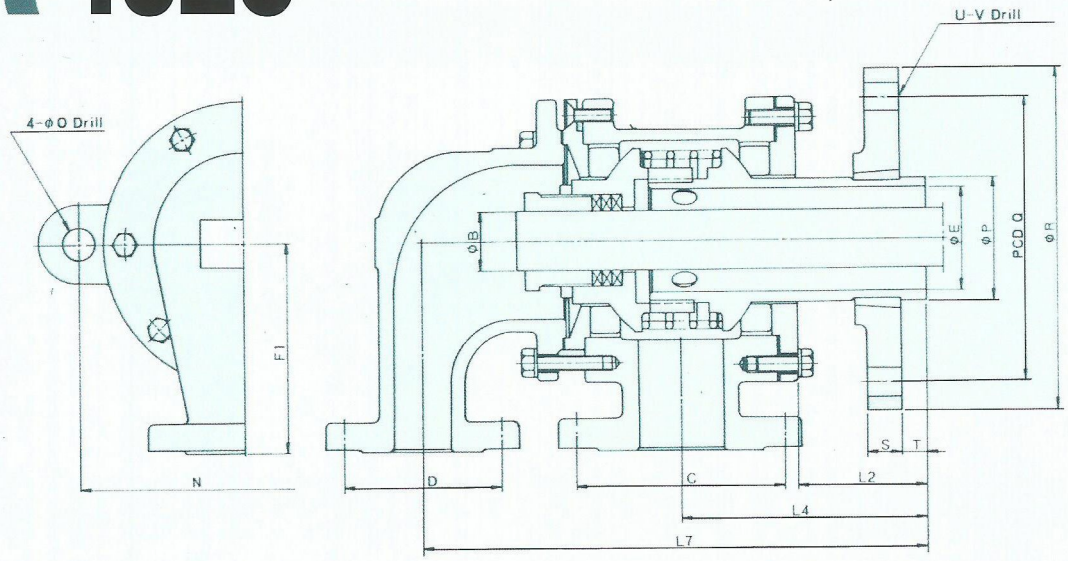
OR 4015



CODE / SIZE	E	F1	L2	L7	N	O	P	Q	R	S	T	U	V	U	V	W	X
80A	85	152	120	517	241	33	98	160	190	20	23	4	14	8	15	150	185
100A	96	165	120	517	308	40	113	190	230	25	25	8	18	8	19	175	210
125A	120	200	130	620	400	52	140	235	294	30	32	8	23	8	23	210	250

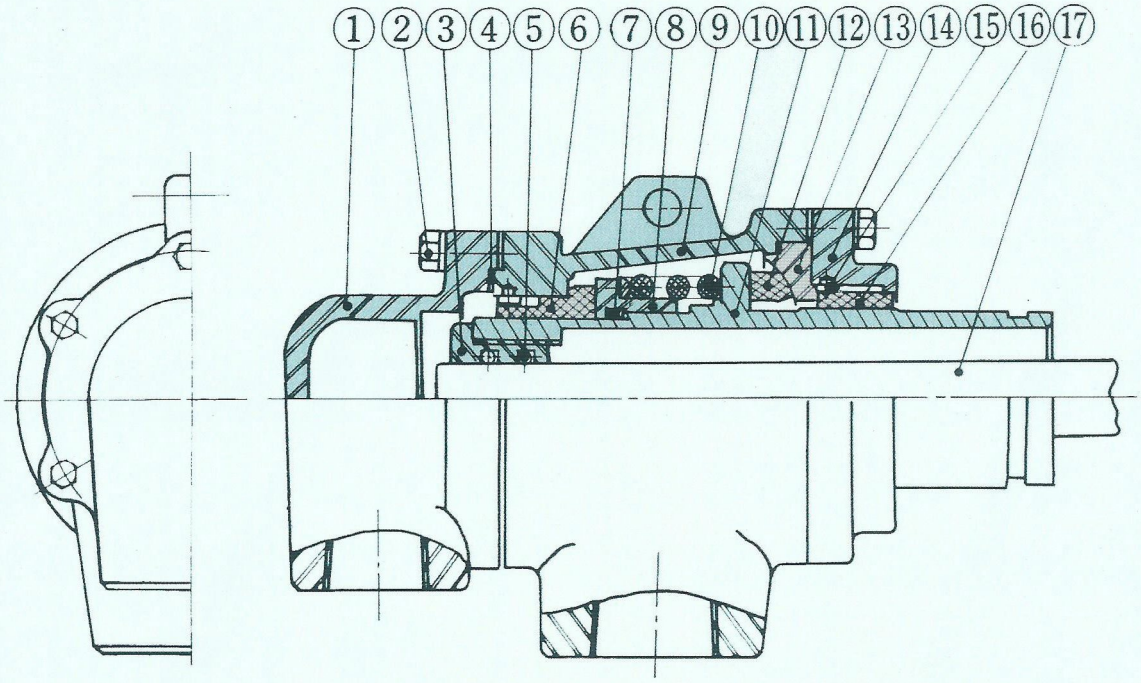
OR 4025



CODE / SIZE	B	C	D	E	F1	L2	L4	L7	N	O	Q	P	R	S	T	U	V
50A	42.7	ϕ120	ϕ90	60	133	76.5	154	314	220	25	130	76	175	16	18	4	14
65A	42.7	ϕ140	ϕ105	73	152	90.5	178	364	241	26	140	87	175	20	23	4	14
80A	48.6	ϕ150	ϕ105	85	165	112.5	205	405	280	26	160	98	190	20	23	4	14

TAINO CO., LTD.

DR 3900 SERIES
TYPE ROTARY JOINT 의 구조



① HEAD
② HEX. BOLT
③ SIPHON HOLD
④ GASKET
⑤ O-RING
⑥ DRY BEARING
⑦ PACKING
⑧ COLLAR
⑨ CASE
⑩ SPRING
⑪ ROTOR
⑫ SEAL RING
⑬ METAL SEAL SEAT
⑭ COVER
⑮ LOCK PIN
⑯ DRY BEARING

사용조건

- 사용유체 : Steam, Heat Oil, Water
- 최고사용온도 : 300° C
- 최고사용압력 :18kg/cm²G
- 최고회전수 : 600 r.p.m

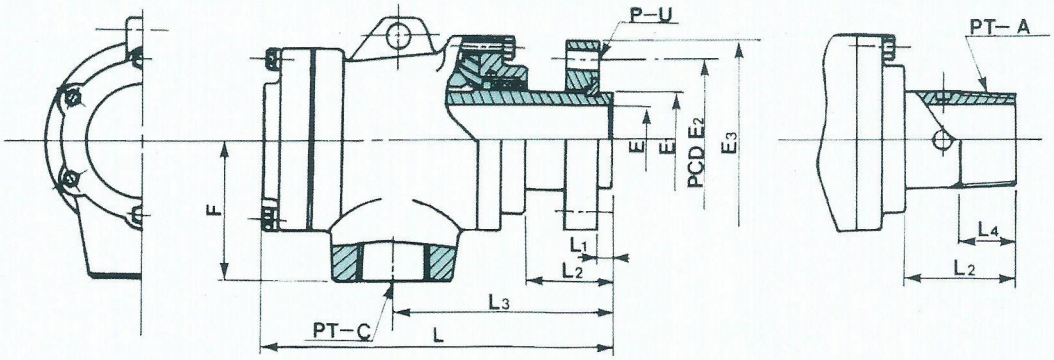
특 징

- 완전무급유형으로 보수가 용이합니다.
- 양쪽에 Dry Bearing 구조로 설계되어 고속회전에 사용 가능합니다.
- 고온, 고압에서 특히 우수한 성능을 발휘합니다.
- 신개발 제품으로 Rotor Sleeve의 정확한 Centering을 보장하므로 수명이 깁니다.(특수카본재질 사용)

TAINO CO., LTD.

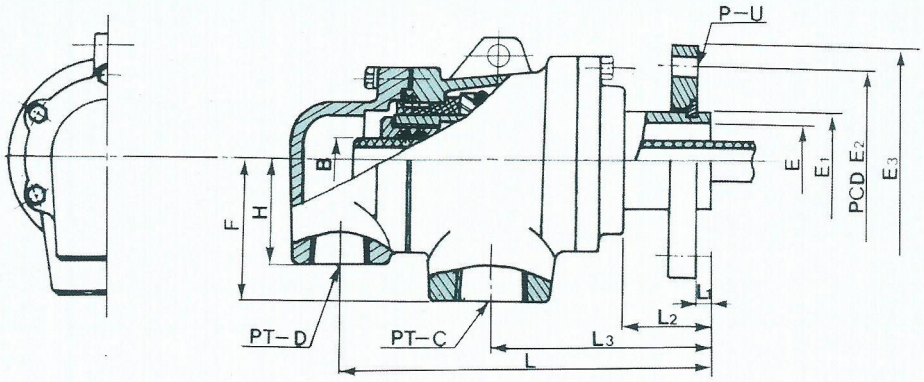
DR 3900 SERIES
TYPE DIMENSION TABLE (mm)

단식 MONO FLOW DR 3910 / DR 3915 - F TYPE



CODE / SIZE	A (in)	C (in)	E	E1	E2	E3	F	L	L1	L2	L3	L4	P-U
50A (2B)	2	2	48	60	100	130	105	250	10	65	165	25	4-M12
65A (2½B)	2½	2½	61	76	120	150	115	270	12	70	180	25	4-M12
80A (1B)	3	3	72	88	145	190	130	290	12	90	205	25	4-M16
90A (3½B)	3½	3½	85	100	150	195	145	310	14	100	225	25	4-M16
100A(4B)	4	4	95	115	170	220	160	355	14	120	265	30	4-M16
125A(5B)	5	5	118	140	200	250	180	370	16	130	280	30	4-M18

복식 DOUBLE FLOW DR 3900 / DR 3905 - F TYPE

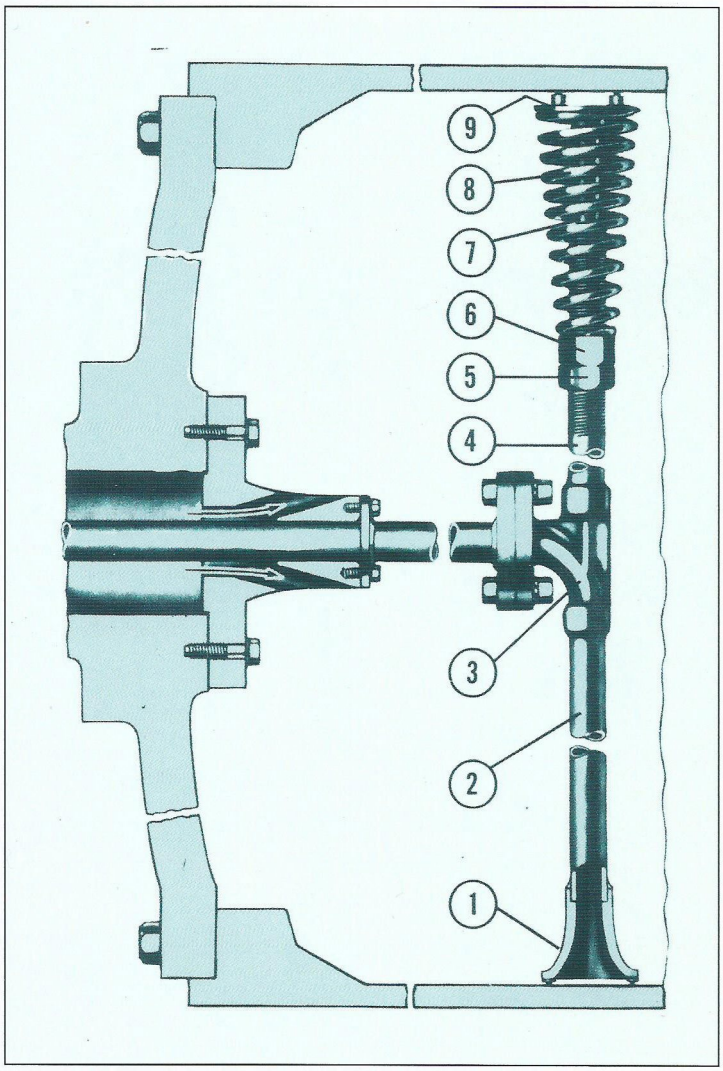


CODE / SIZE	B (in)	C (in)	D (in)	E	E1	E2	E3	F	H	L	L1	L2	L3	P-U
50A - 25A (2B - 1B)	33	1½	1	48	60	100	130	105	265	285	10	65	165	4-M12
65A - 25A (2½B - 1B)	33	2	1	61	76	120	150	115	290	305	12	70	180	4-M12
80A - 32A (3B - 1¼B)	42	2½	1¼	72	88	145	190	130	341	325	12	90	205	4-M16
90A - 40A (3½B - 1½B)	48	3	1½	85	100	150	195	145	370	350	14	100	225	4-M16
100A - 50A(4B - 2B)	60	3½	2	95	115	170	220	160	442	370	14	120	265	4-M16
125A - 65A(5B - 2½B)	75	4	2½	118	140	200	250	180	510	400	16	130	280	4-M18

TAINO CO., LTD.

ROTARY SYPHON

초지 Dryer로부터 응축수를 배출하는 최선의 방법은
한국다이노 Rotary Syphon을 사용하는 일입니다.



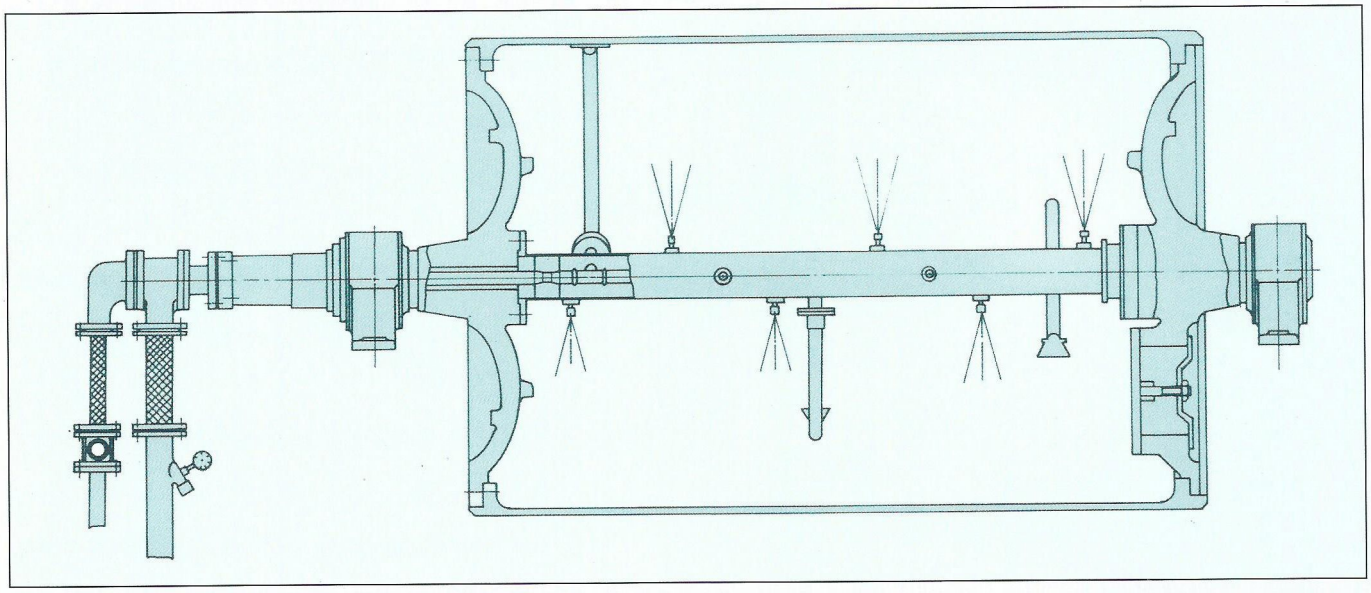
1. SUS 304로 제작하였으며 Stellite Pad를 부착하여 내경과의 Clearance를 정확히 조정합니다.
2. Syphon Support로서 SUS 304 Pipe 사용합니다.
3. 특수 제작된 SUS 304 Elbow로서 상하측 Syphon Support와 Drain Pipe를 연결합니다.
4. Tube를 조절하고 Elbow에 소켓을 용접합니다.
5. Spring Tension을 고정시키는 Lock Nut
6. Spring Tension의 조정 및 고정용 Net.
7. ③Tube와 ⑨압력판과의 연결지지봉으로 미세한 오차까지도 조정 가능합니다.
8. Stainless Steel Spring.
9. Dryer 내경과 일치하는 Steelite Pad를 부착한 압력판입니다.

한국다이노 ROTARY SYPHON은
수년간의 현장 경험을 바탕으로 설계 제작하여
응축수를 가장 효과적으로 배출할 수 있는
Knowhow가 축적되어 있는
제품입니다.

TAINO CO., LTD.

ROTARY COOLING SYPHON SYSTEM

COOLING CYLINDER의 냉각 효과를 올리기 위해서는 내부에 냉각수를 균일하게 분사시키면서 원활하게 배출하는 것이 중요한 것입니다.
한국다이노의 ROTARY COOLING SYPHON은 그 요구에 응하는 이상적인 시스템입니다.



구 조

입구에 EJECTOR NOZZLE을 부착하여 공기와 함께 냉각수를 분사합니다. 시린다 내의 중앙부 파이프는 2중관식으로 되어 있어 냉각수는 외측 파이프를 통하여 등간격으로 된 분사 구멍으로 내면을 향하여 강하게 분사시킵니다.
냉각수는 시린다 내에서 열교환을 한 후 시린다 중앙부에 설치된 ROTARY SYPHON으로 흡입되어 내관을 통하여 외부로 배출됩니다.

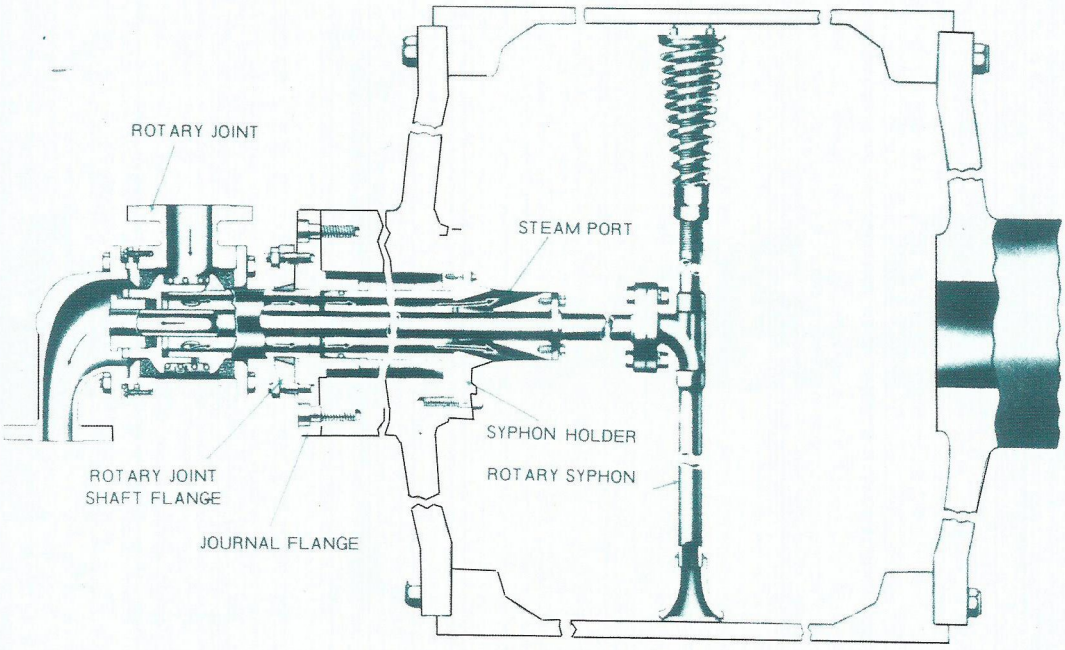
특 징

- 균일한 냉각 기능
  냉각수는 샤워 방식으로 시린다 내면에 균일하게 분사시키므로 시린다의 전체를 온도 면화없이 균일한 냉각 효과를 얻게 됩니다.
- 발군의 냉각 효율
  냉각수의 배출은 공기에 으하여 시린다 내의 압력을 올려서 배출하는 불어내기 방식이므로 원활하게 배출되고 냉각효과도 한층 양호하게 됩니다.
  단, 공기 압력에 의하여 성능이 좌우되는 경우가 있으므로 사용시 다음과 같이 주의하여 주십시오.
  1. 죠인트의 입구와 출구의 압력 차이를 0.5kg/㎠ 이상으로 하십시오.
  2. 냉각수 압력은 공기 압력보다 약간 높게 하십시오.
  3. 운전 시작시에는 냉각수를 먼저 채워 주십시오.
  4. 정지 후 재운전시에는 시린다 내의 공기를 배출시켜 주십시오.

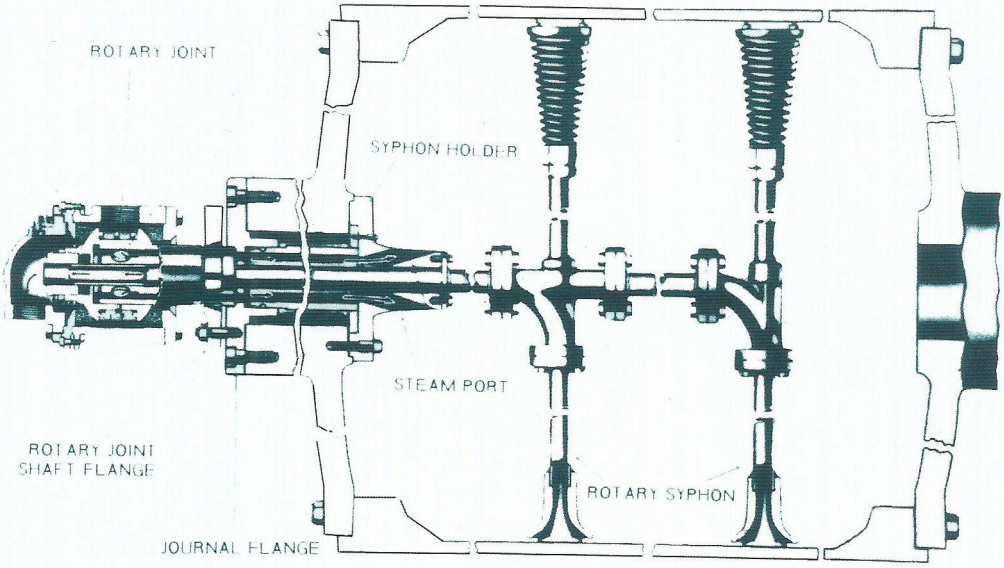
TAINO CO., LTD.

ROTARY JOINT & SYPHON의 설치도

STEAM INSULATING TUBE TYPE



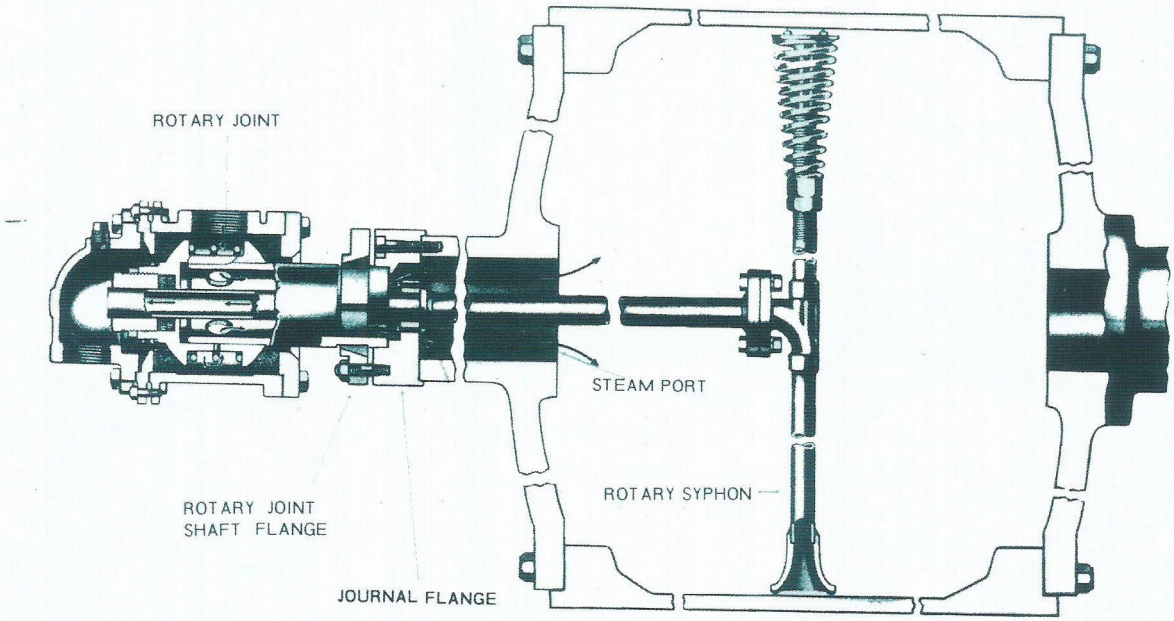
DOUBLE TYPE ROTARY SYPHON



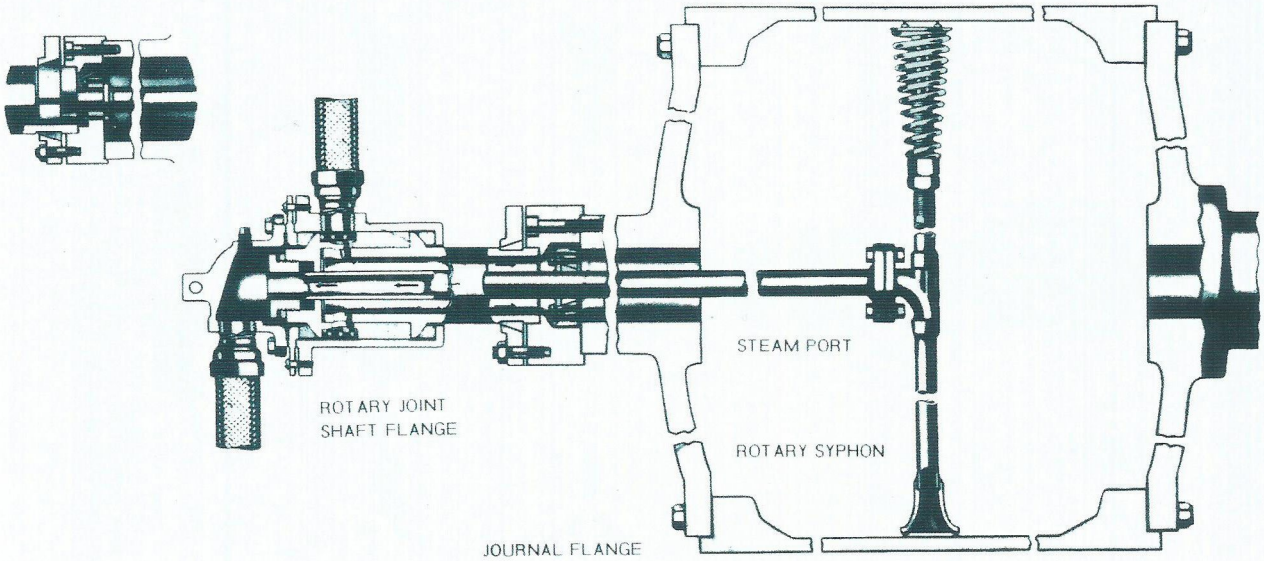
TAINO CO., LTD.

ROTARY JOINT & SYPHON의 설치도

WELDING FLANGE TYPE



CARBON BEARING TYPE ROTARY JOINT



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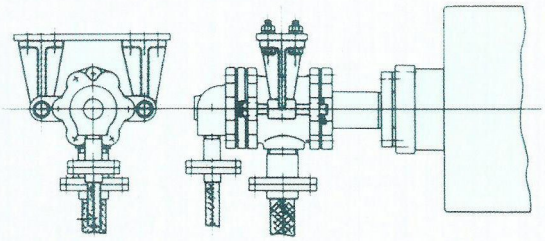
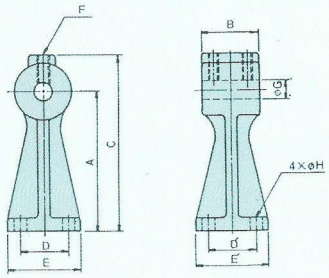
ROTARY JOINT의 고정방법

STAND TYPE

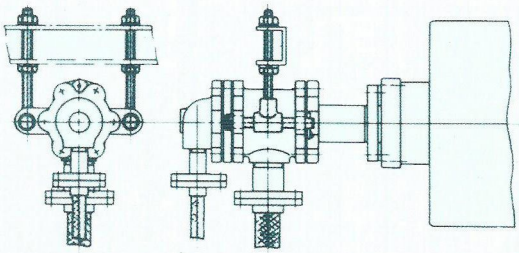


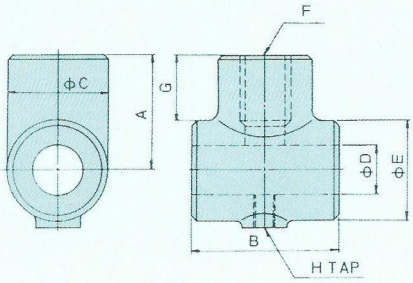
한국다이노 JOINT의 R4000 SERIES는 내부에 Bearing Carbon이 없기 때문에 반드시 외부에서 중심을 맞출 수 있는 Support의 설치가 필요합니다.



규격	A	B	C	D (D')	E (E')	F	G	H
50A	149	60	183	51	76	M10	25	ϕ13
65A	149	60	183	51	76	M12	26	ϕ13
80A	149	60	183	51	76	M12	26	ϕ13
90A	152	76	189	51	76	M12	38	ϕ13
100A	152	76	189	51	76	M12	38	ϕ13

TEE TYPE





규격	A	B	C	D	E	F	G	H
50A	80	60	40	25	50	M20	55	M10
65A	80	60	40	25	50	M20	55	M12
80A	80	60	40	32	50	M20	55	M12
90A	80	76	40	38	50	M24	57	M12
100A	80	76	40	38	50	M30	57	M12

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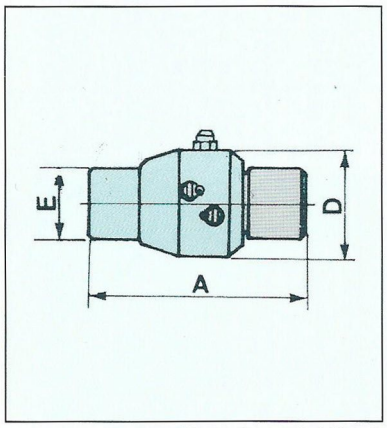
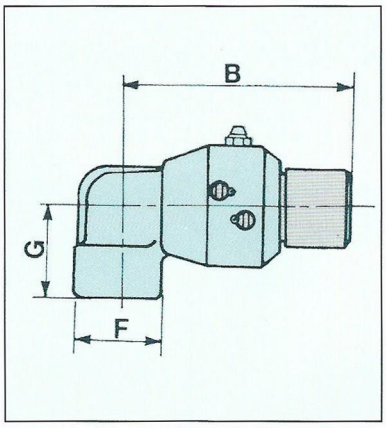
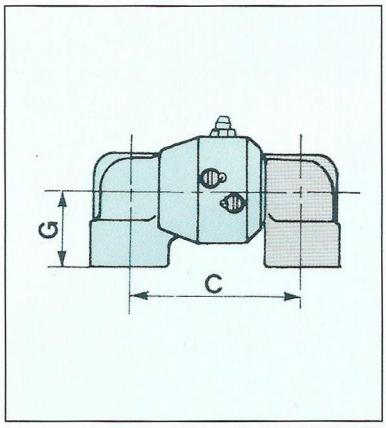
DC TYPE DIMENSION TABLE & OPERATING LIMTS



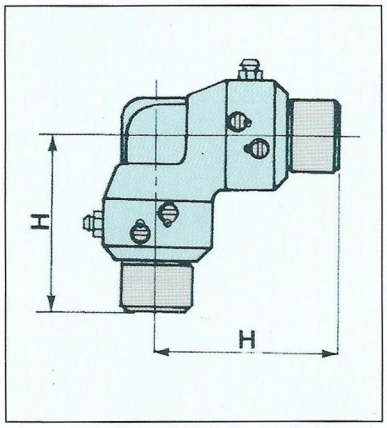
STYLE NO.1



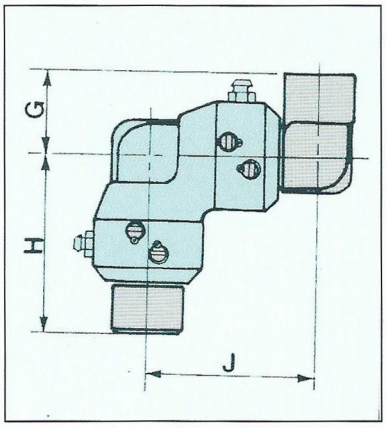
STYLE NO.2



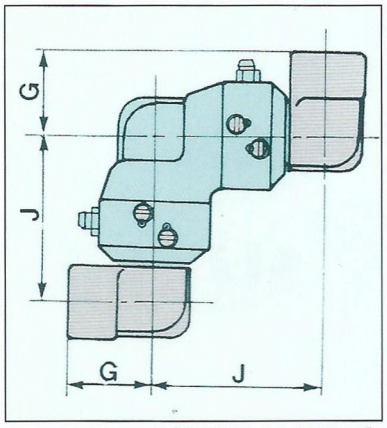
STYLE NO.3



STYLE NO.4



STYLE NO.5



STYLE NO.6

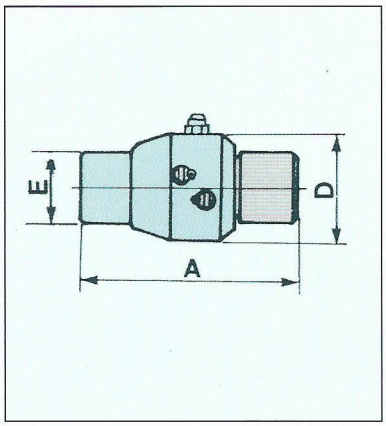
- 사용압력 : MAX. 40kg/cm²
- 사용온도 : MAX. 100° C (NBR)
  MAX. 180° C (VITON)
  MAX. 250° C (PTFE)
- 본체재질 : DUCTILE (FCD 25)
- 배관접속방법 : PT SCREW방식

단위:(mm)

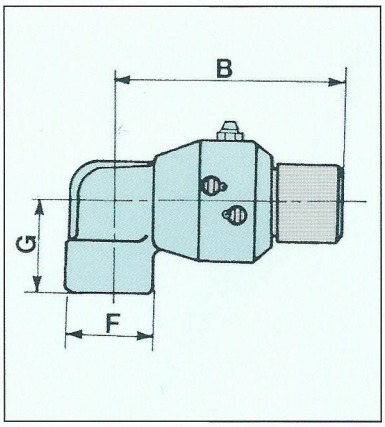
SIZE		A	B	C	D	E	F	G	H	J
A	B									
10	3/8	89	76	68	46	34	32	40	76	68
15	1/2	89	76	68	46	34	32	40	76	68
20	3/4	114	100	92	60	46	46	60	100	92
25	1	114	100	92	60	46	46	60	100	92
32	1¼	130	114	110	76	64	64	65	114	110
40	1½	130	114	110	76	64	64	65	114	110
50	2	147	145	145	100	76	76	75	145	156
65	2½	180	175	175	142	108	108	115	175	192
80	3	180	175	175	142	108	108	115	175	192
100	4	206	210	210	170	136	136	125	207	232

TAINO CO., LTD.

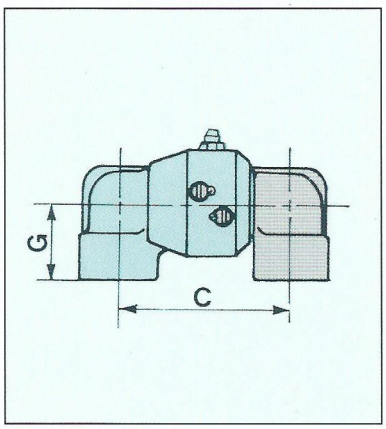
DH TYPE DIMENSION TABLE & OPERATING LIMTS



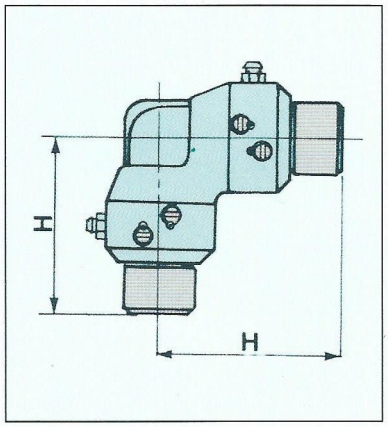
STYLE NO.1



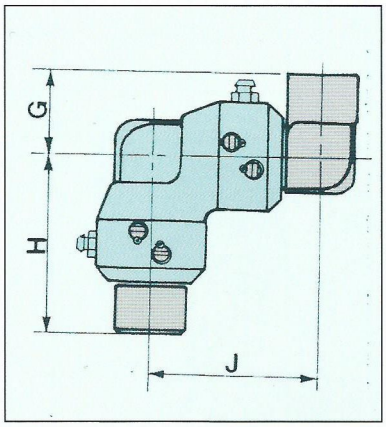
STYLE NO.2



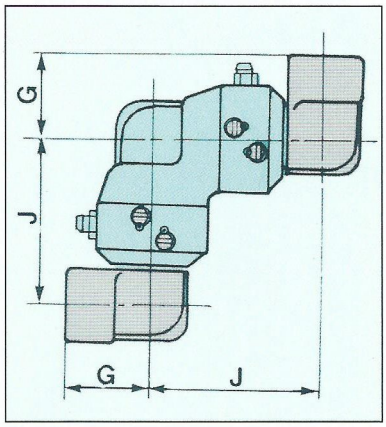
STYLE NO.3



STYLE NO.4



STYLE NO.5



STYLE NO.6

- 사용압력 : MAX. 420kg/cm² (T-PACKING)
  MAX. 210kg/cm² (U-PACKING)
- 사용온도 : MAX. 100° C (NBR)
  MAX. 180° C (VITON)
- 본체재질 : FORGED STEEL
  CAST STEEL
- 배관접속방법 : PT SCREW방식

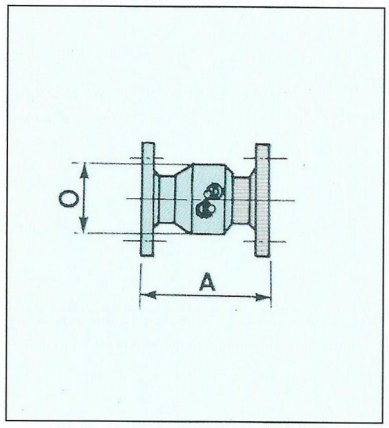
※ FLANGE 접속형식도 제작함.

단위: (mm)

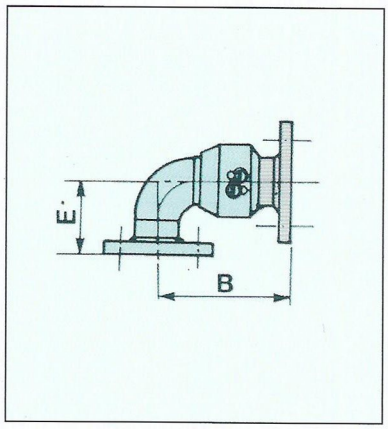
SIZE		A	B	C	D	E	F	G	H	J
A	B									
10	3/8	86	73	74	48	32	30	30	73	74
15	1/2	86	73	74	48	32	30	30	73	74
20	3/4	114	73	107	64	45	45	40	108	107
25	1	114	108	107	64	45	45	40	108	107
32	1¼	117	108	109	78	63	60	50	114	109
40	1½	117	114	109	78	63	60	50	114	109
50	2	150	114	150	105	80	80	70	145	150
65	2½	155	146	161	120	92	92	80	146	161
80	3	212	220	223	148	110	110	100	199	202
100	4	230	259	269	180	140	140	120	235	245

TAINO CO., LTD.

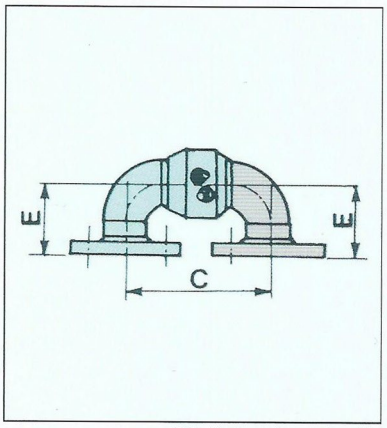
DF TYPE DIMENSION TABLE & OPERATING LIMTS



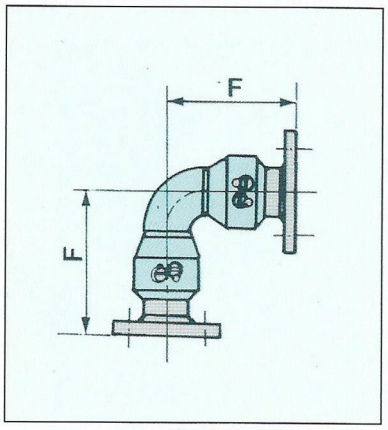
STYLE NO.1



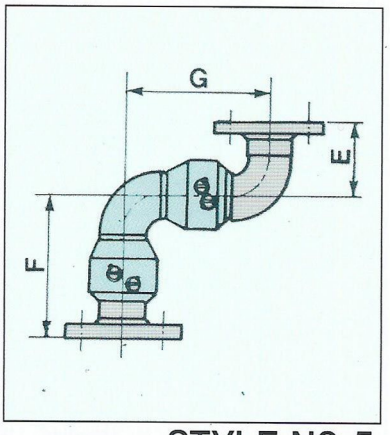
STYLE NO.2



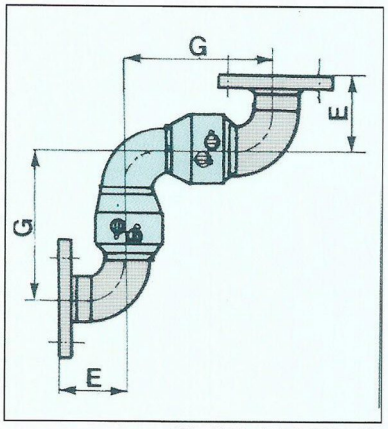
STYLE NO.3



STYLE NO.4



STYLE NO.5



STYLE NO.6

- 사용압력 : MAX. 400kg/cm²
- 사용온도 : MAX. 100° C (NBR)
  MAX. 180° C (VITON)
  MAX. 230° C (PTFE)
- 본체재질 : CARBON STEEL
  DUCTILE (FCD 25)
- 배관접속방법 : FLANGE방식
  JIS:10Kg/Cm²
  JIS:20Kg/Cm²

※ 고압용으로도 제작함.

단위: (mm)

SIZE		A	B	C	D	E	F	G
A	B							
25	1	180	170	152	61	94	170	152
32	1¼	203	194	184	72	105	194	184
40	1½	215	210	205	80	119	210	205
50	2	220	233	245	94	140	233	245
65	2½	250	243	237	112	133	243	237
80	3	255	261	267	125	146	261	267
100	4	272	298	323	152	178	298	328
125	5	304	342	380	185	216	342	380
150	6	334	397	461	225	241	397	461
200	8	368	470	571	275	305	470	571
250	10	397	550	702	330	356	550	702
300	12	436	626	817	380	419	626	817
400	16	476	755	1035	480	533	755	1035

TAINO CO., LTD.

Guide

OF TAINO MECH ANICAL SEALS

Seal type KB:Rotary 1:Stationary	Out-Dia. of Shaft (Sleeve)	Code 1 Packing Material	Code 2 Rotary & Stationary Face Material	Code 3 Metal parts Meterial	Code 4 Coil spring Material
KB1	45mm	P.T.F.E	Tungsten Carbide	STS 316	Carpenter 20

Example: **KB1-045-1GGS1**

MATERIAL CODES

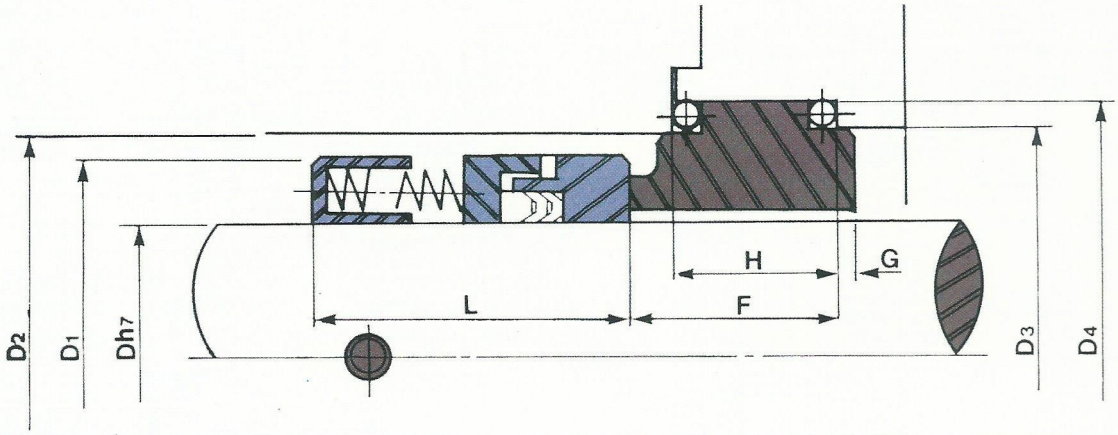
CODE 1 Material of Packings (Secondary Sealing)	CODE NO.	Temperature °C	Temperature °F
Politerafluor Ethylene (Teflon:PTFE)	1	-60 ~ +260	-75 ~ +500
Fluorocarbon Rubber (Vinton)	2	-26 ~ +205	-15 ~ +400
Ethyene prophylene Rubber (EPR)	3	-43 ~ +149	-45 ~ +300
High Nitrile Rubber (EPR)	4	-34 ~ +121	-30 ~ +250
HIgh Temperature Polymer (Kalez)	5	-18 ~ +260	-0 ~ +500
Silicone Rubber	6	-54 ~ +232	-65 ~ +450
Special	7	-	-

CODE 1 Material of Mating face (Rotary & Stationary Face)		CODE 3, 4 Material of Metal parts and spring			
		CODE	METAL	CODE	SPRING
A	Carbon	D	STS 304	1	Carpenter 20
B	Stellite #1	S	STS 316	2	STS 304
C	Ceramic Solid (Al_2O_3)	H	Hastelloy B	3	STS 316
D	Ceramic Coated (Cr_2O_3)	J	Hastelloy C	4	Hastelloy B
E	Silicone Carbide Plated	T	Titanium	5	Hastelloy C
F	Tungsten Carbide Coated	Q	Carpenter 20	6	Special
G	Tungsten Carbide Plated				

TAINO CO., LTD.

D1

SINGLE, UNBALANCE-MULTI SPRING TYPE SEAL



DIMENSION TABLE (mm)

ISO-3069

D	D1	D2, D3	D4	L	H	F	G
020	34	36	42	35	18	23	2
022	36	38	44				
025	39	41	47				
028	42	44	50				
030	44	46	52				
032	46	48	54				
035	49	51	57				
038	54	58	64	38	20	25	2
040	56	60	66				
042	58	62	68				
045	61	65	71				
048	64	68	74				
050	66	70	76	39	20	25	2
052	68	72	78	40	22	28	2
055	71	75	81				
058	76	83	89	41	22	28	2
060	78	85	93				
062	80	87	95				
065	83	90	98				
068	86	93	101	41	24	30	2
070	90	95	103	42	24	30	2
075	95	104	112				
080	100	109	117	42	25	31	2
085	105	114	122	43	25	31	2
090	110	119	127	45	25	31	2
095	115	124	132				
100	120	129	137				
105	127	134	142				
110	132	139	147				
120	144	150	160	52	30	41	2
130	154	160	170				
140	164	175	185				
150	180	190	200	62	30	41	2

OPERATING LIMITS

- MAX. PRESSURE ---------- 12kg/cm²G
- TEMPERATURES -------- -60° C ~ -260° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ---------- 300cp.
- SIZE---------- 20mm to 150mm

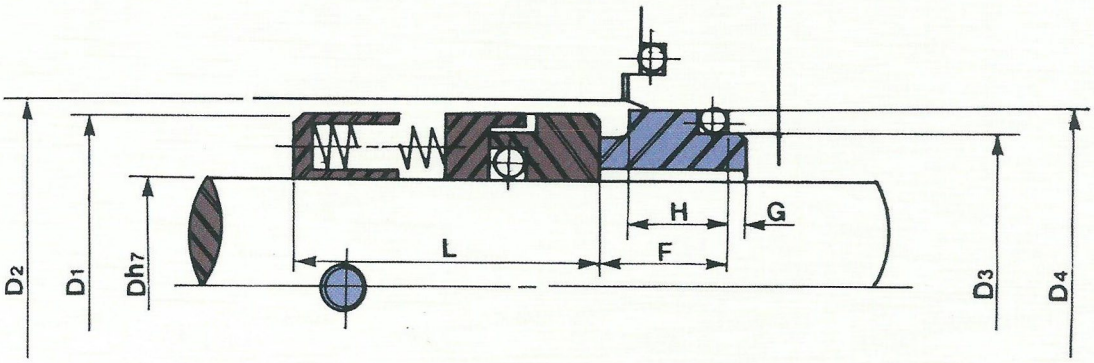
STANDARD CODES

K1 - 000 - 2GAS1
1GGS2
1CAH4
1EAT3

TAINO CO., LTD.

D2

SINGLE, UNBALANCE-MULTI SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	D1	D2	D3	D4	L	H	F	G
020	34	36	30	36	34	8	11	4
022	36	38	32	38				
025	39	41	35	41	34	9	12	4
028	42	44	38	44				
030	44	46	40	46	34	10	13	4
032	46	48	42	48				
035	49	51	45	51				
038	54	58	48	54	37	10	13	4
040	56	60	50	56	37	11	14	4
042	58	62	52	58				
045	61	65	55	61				
048	64	68	58	64	37	12	15	4
050	66	70	60	66	38	12	15	4
052	68	72	62	68	39	12	15	4
055	71	75	65	71				
058	76	83	70	76	40	12	15	4
060	78	85	72	78				
062	80	87	74	80	40	13	16	4
065	83	90	77	83				
068	86	93	80	86				
070	90	95	81	90	41	15	18	4
075	95	104	86	95				
080	100	109	91	100				
085	105	114	96	105	42	15	18	4
090	110	119	101	110	44	15	18	4
095	115	124	106	115				
100	120	129	116	125	44	17	21	4
105	127	134	121	130				
110	132	139	126	135				
120	144	150	136	145	51	17	21	4
130	154	160	146	155				
140	164	175	161	170	51	20	24	4
150	180	190	171	180	61	20	24	4

OPERATING LIMITS

- MAX. PRESSURE ---------- 12kg/cm²G
- TEMPERATURES -------- -26° C ~ -205° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ---------- 300cp
- SIZE---------- 20mm to 150mm

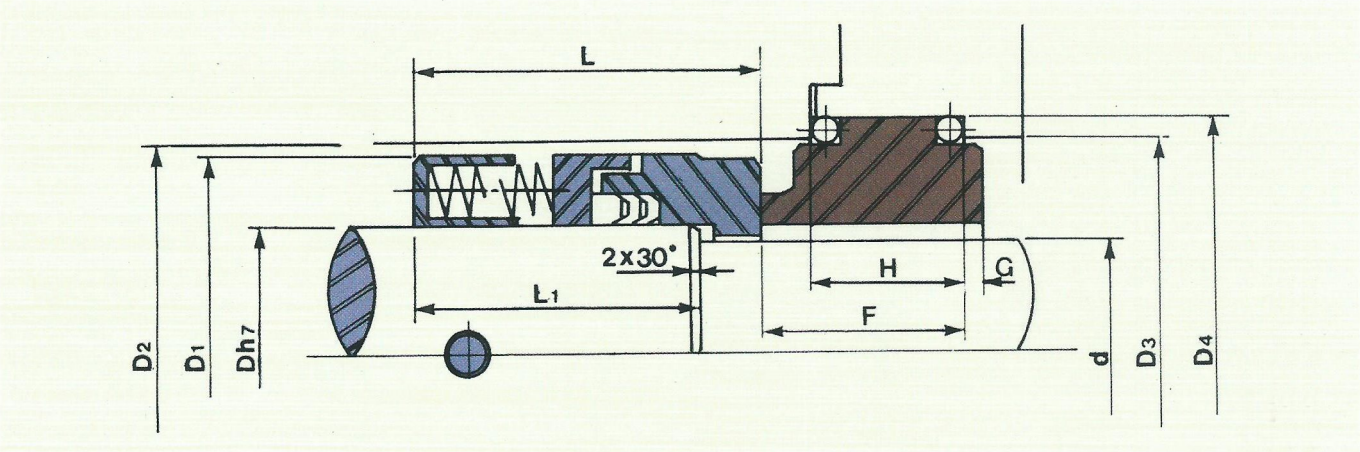
STANDARD CODES

K2 - 000 - 2GAS1
3GGS2
4EET3

TAINO CO., LTD.

DB1

SINGLE, BALANCE-MULTI SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	d	D1	D2, D3	D4	L	L1	H	F	G
020	16	34	36	42	40	33	18	23	2
022	18	36	38	44					
025	21	39	41	47					
028	24	42	44	50					
030	25	44	46	52					
032	27	46	48	54					
035	30	49	51	57					
038	33	54	58	64	42	35	20	25	2
040	35	56	60	66					
042	37	58	62	68					
045	40	61	65	71	43	36	20	25	2
048	43	64	68	74					
050	45	66	70	76	44	37	20	25	2
052	47	68	72	78					
055	50	71	75	81					
058	53	76	83	89	46	37	22	28	2
060	55	78	85	93					
062	57	80	87	95					
065	60	83	90	98					
068	63	86	93	101	46	37	24	30	2
070	65	90	95	103					
075	70	95	104	112					
080	75	100	109	117	46	37	25	31	2
085	80	105	114	122					
090	85	110	119	127	49	39	25	31	2
095	90	115	124	132					
100	95	120	129	137					
105	100	127	134	142					
110	105	132	139	147	62	47	25	31	2
120	110	144	150	160					
130	120	154	160	170					
140	130	164	175	185					
150	140	180	190	200	72	56	25	31	2

OPERATING LIMITS

- MAX. PRESSURE ---------- 30kg/cm²G
- TEMPERATURES -------- -60° C ~ +260° C
- MAX. VELOCITY ----------up to 20m/sec
- MAX. VISCOSITY ---------- 300cp
- SIZE---------- 20mm to 150mm

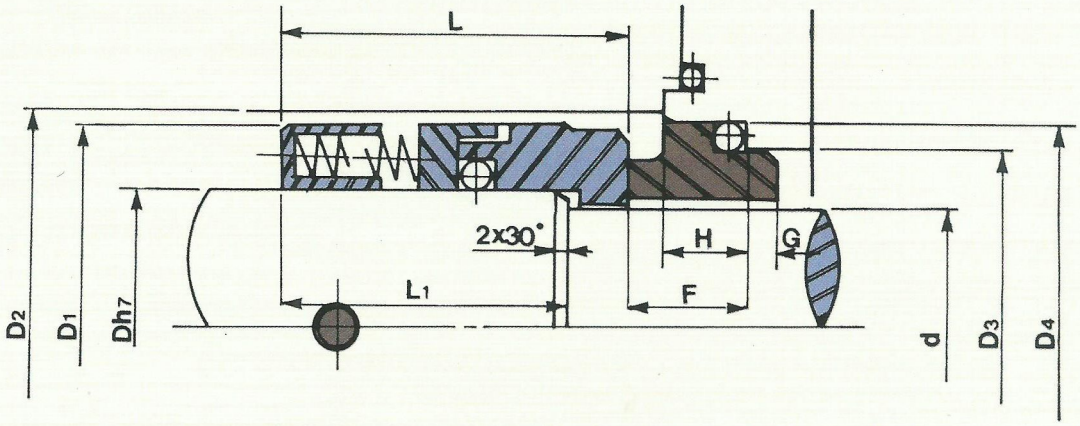
STANDARD CODES

KB1 - 000 - 1GAS 1
1GGS 2
1EAT 3

TAINO CO., LTD.

DB2

SINGLE, BALANCE-MULTI SPRING TYPE SEAL



DIMENSION TABLE (mm)

ISO-3069

D	d	D1	D2	D3	D4	L	L1	H	F	G
020	16	34	36	30	36	40	33	11	14	4
022	18	36	38	32	38					
025	21	39	41	35	41	40	33	12	15	4
028	24	42	44	38	44					
030	25	44	46	40	46	40	33	13	16	4
032	27	46	48	42	48					
035	30	49	51	45	51					
038	33	54	58	48	54	45	38	14	17	4
040	35	56	60	50	56					
042	37	58	62	52	58					
045	40	61	65	55	61					
048	43	64	68	58	64	48	40	15	18	4
050	45	66	70	60	66					
052	47	68	72	62	68					
055	50	71	75	65	71					
058	53	76	83	70	76					
060	55	78	85	72	78	48	40	16	19	4
062	57	80	87	74	80					
065	60	83	90	77	83					
068	63	86	93	80	86					
070	65	90	95	81	90	50	41	18	21	4
075	70	95	104	86	95					
080	75	100	109	91	100					
085	80	105	114	96	105					
090	85	110	119	101	110					
095	90	115	124	106	115					
100	95	120	129	116	125	50	41	20	24	4
105	100	127	134	121	130					
110	105	132	139	126	135					
120	110	144	150	136	145					
130	120	154	160	146	155					
140	130	164	175	161	170	50	41	23	27	4
150	140	180	190	171	180					

OPERATING LIMITS

- MAX. PRESSURE ---------- 30kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ----------up to 20m/sec
- MAX. VISCOSITY ---------- 300cp
- SIZE---------- 20mm to 150mm

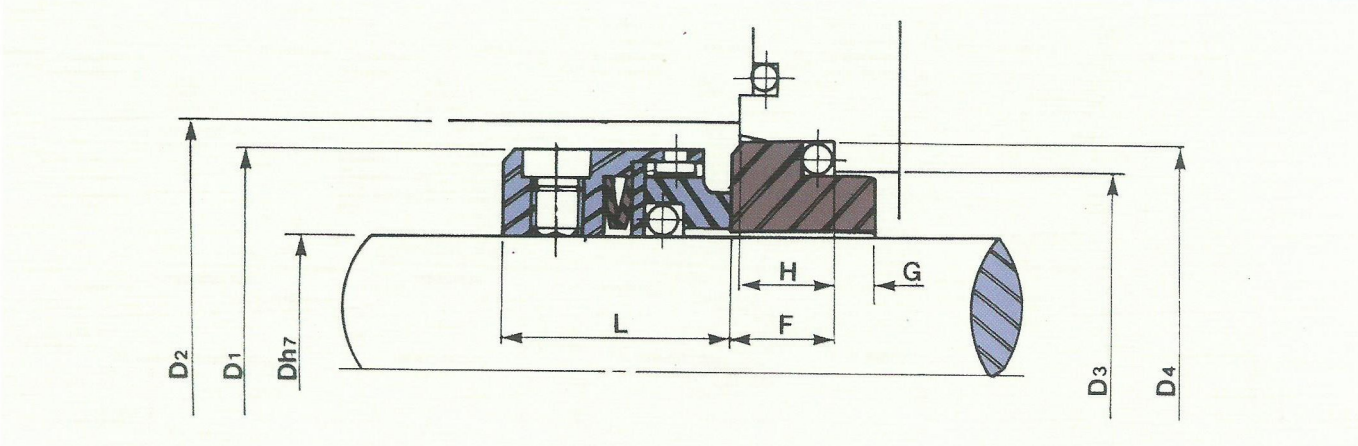
STANDARD CODES

KB2 - 000 - 2GGS 1
3GAS 2
4EET 3

TAINO CO., LTD.

DG3

SINGLE, UNBALANCE WAVE & MULTI SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	D1	D2	D3	D4	L	F	H	G
020	35	42	29.5	35	26	7.5	6.5	3
025	40	45	38	38	28.5	7.5	6.5	2.5
030	45	49	39.2	45	31	10.5	6.5	2.5
035	50	54	46.2	52	31	11	6.5	2.5
040	57	61	52.2	58	31	10.8	6.5	3
045	62	66	55.3	64	31	11.6	8	3
050	67	71	60.8	69.3	32.5	11.6	8	3
055	72	76	66.5	75.4	32.5	13.3	8	3
060	81	85	71.5	80.4	37.5	13.3	8	2.7
065	86	95	76.5	85.4	37.5	13	8	3
070	91	99	83	92	42	13	8	3
075	99	105	90.2	99	42	14	8	3
080	104	109	95.2	104	41.8	15	8	2.5
085	109	114	100.2	10.9	41.8	14.8	8	2.5
090	114	119	105.5	114	46.8	14.8	8	3
095	119	124	111.6	120.3	47.8	15.8	8	3
100	124	129	114.5	123.3	47.8	15.8	8	3
110	135	139	123.5	132.3	50	16.8	10	3
120	145	149	132.5	141.3	50	16.8	10	3
130	155	159	141.5	150.3	50	16.8	10	3

OPERATING LIMITS

- MAX. PRESSURE ----------12kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ----------150,000cp
- SIZE---------- 20mm to 130mm

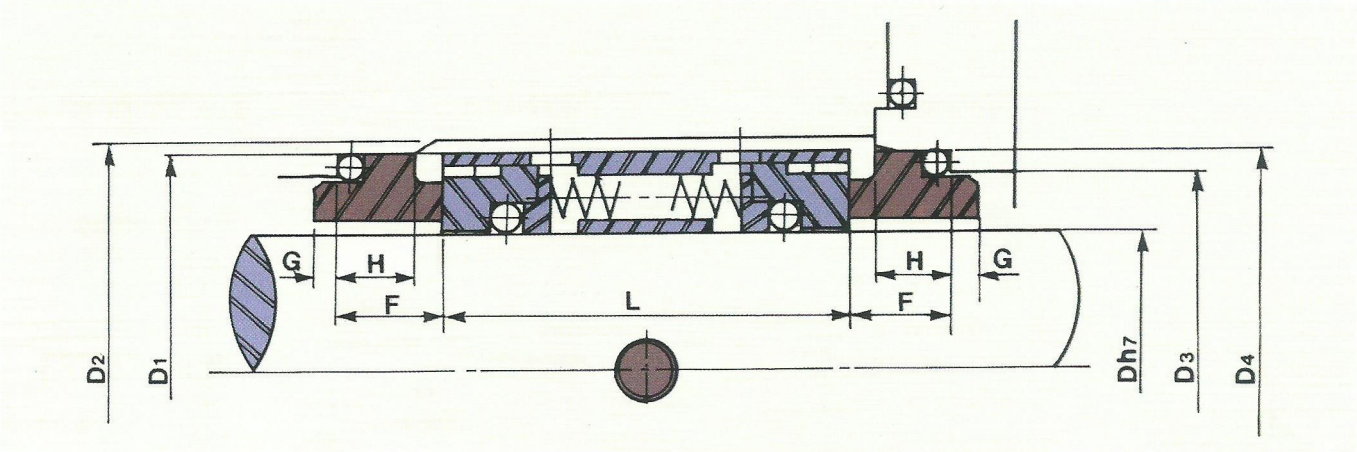
STANDARD CODES

KG3 - 000 - 2GAS 1
3GGS 2
4EAS 3

TAINO CO., LTD.

DMD1

DOUBLE, UNBALANCE-MULTI SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	D1	D2	D3	D4	L	H	F	G
020	34	36	30	36	48	8	11	4
022	36	38	32	38				
025	39	41	35	41	48	9	12	4
028	42	44	38	44				
030	44	46	40	46	48	10	13	4
032	46	48	42	48				
035	49	51	45	51				
038	54	58	48	54				
040	56	60	50	56	48	11	14	4
042	58	62	52	58				
045	61	65	55	61				
048	64	68	58	64	54	12	15	4
050	66	70	60	66				
052	68	72	62	68				
055	71	75	65	71				
058	76	83	70	76				
060	78	85	72	78	54	13	16	4
062	80	87	74	80				
065	83	90	77	83				
068	86	93	80	86				
070	90	97	84	90	65	15	18	4
075	95	104	89	95				
080	100	109	94	100				
085	105	114	99	105				
090	110	119	104	110				
095	115	124	109	115				
100	120	129	119	125	72	17	21	4
105	125	134	124					
110	132	139	129	135				
120	142	150	139	155				
130	154	160	149	165				
140	164	170	159	170				

OPERATING LIMITS

- MAX. PRESSURE ---------- 15kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ----------150,000cp
- SIZE---------- 20mm to 140mm

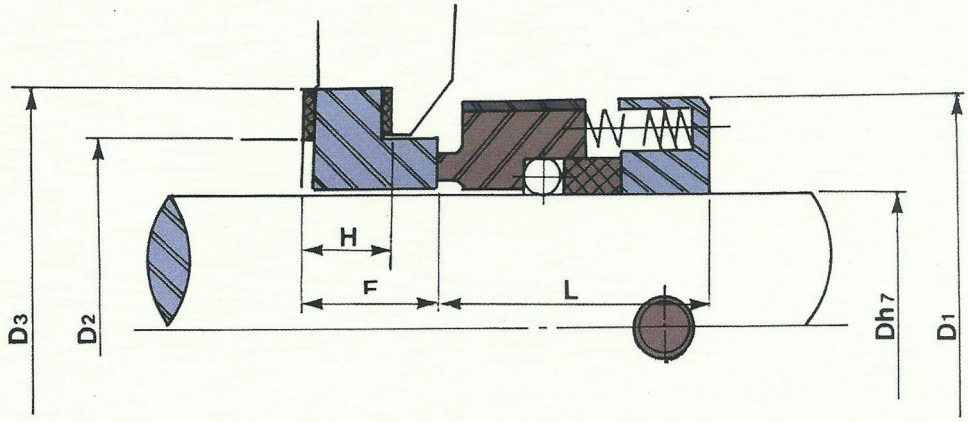
STANDARD CODES

KMD1 - 000 -2GGS 2
3GAS 3
4EES 4

TAINO CO., LTD.

YA4

SINGLE, BALANCE-MULTI SPRING & OUTSIDE TYPE SEAL



DIMENSION TABLE

ISO-3069

D	D1	D2	D3	L	H	F
025	51	41.5	54.5	38	12.5	17.3
030	56	46.5	63.0	38	12.5	17.3
035	61	51.0	62.5	38	12.5	17.3
040	66	60.5	73.5	38	12.5	17.3
045	71	64.0	80.0	38	12.5	17.3
050	76	70.0	89.5	38	12.5	17.3
055	81	73.5	96.0	38	12.5	17.3
060	86	78.5	99.5	38	12.5	17.3
065	91	85.0	105.0	38	12.5	17.3
070	96	90.0	110.0	38	12.5	17.3
075	101	95.0	115.0	38	12.5	17.3

※ ϕ 80 이상, 주문에 의해 제작됩니다.

OPERATING LIMITS

- MAX. PRESSURE ---------- 8 kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ---------- 100cp
- SIZE---------- 25mm to 75mm

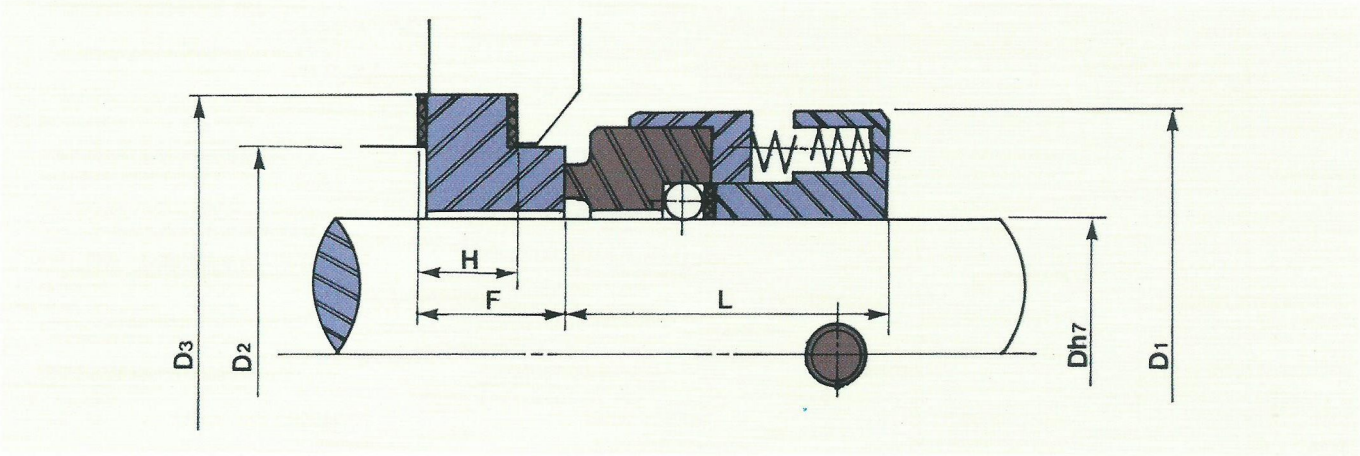
STANDARD CODES

YA4 - 000 - 2 CAS 1
2 GAH 2
5 CAH 5

TAINO CO., LTD.

YN4

SINGLE, BALANCE-MULTI SPRING & OUTSIDE TYPE SEAL



DIMENSION TABLE

ISO-3069

D	D1	D2	D3	L	H	F
025	51	41.5	54.5	38	12.5	17.3
028	54	44.5	56.4	38	12.5	17.3
030	56	46.5	63.0	38	12.5	17.3
032	56	47.5	59.5	38	12.5	17.3
035	61	51.0	62.5	38	12.5	17.3
038	64	57	69.1	38	12.5	17.3
040	66	60.5	73.5	38	12.5	17.3
042	68	63.4	78.6	38	12.5	17.3
045	71	64.0	80.0	38	12.5	17.3
048	74	66.5	81.8	38	12.5	17.3
050	76	70.0	89.5	38	12.5	17.3
055	81	73.5	96.0	38	12.5	17.3
060	86	78.0	99.5	38	12.5	17.3
065	91	85.0	105.0	38	12.5	17.3
070	96	90.0	110.0	38	12.5	17.3
075	101	95.0	115.0	38	12.5	17.3

※ DRIVE PIN사용 TYPE
※ ϕ 80 이상, 주문에 의해 제작됩니다.

OPERATING LIMITS

- MAX. PRESSURE ---------- 8 kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ---------- 100cp
- SIZE---------- 25mm to 75mm

STANDARD CODES

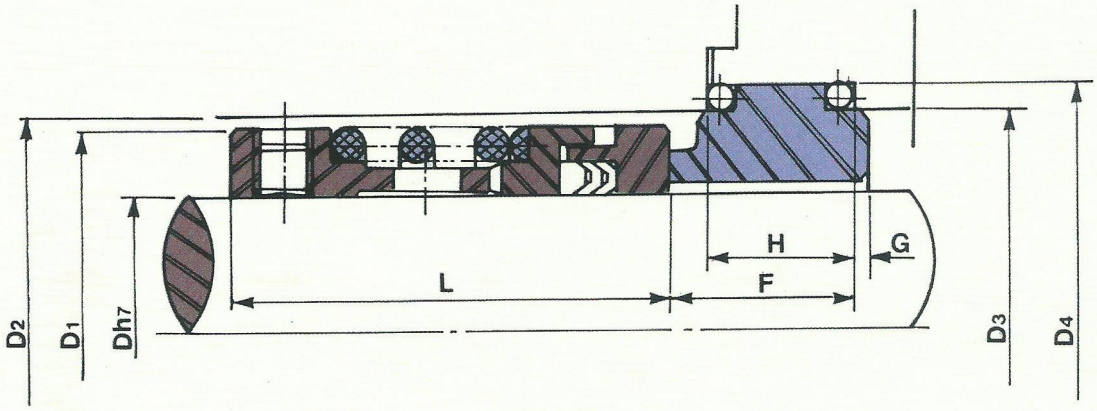
YN4 - 000 - 2 CAS 1
2 CAH 4
5 CAJ 5

한국다이노는 항상 연구하고 있습니다.

TAINO CO., LTD.

S1

SINGLE, UNBALANCE MONO-SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	D1	D2,D3	D4	L	H	F	G
020	34	36	42	45	18	23	2
022	36	38	44				
025	39	41	47	47	18	23	2
028	42	44	50				
030	44	46	52	49	18	23	2
032	46	48	54				
035	49	51	57	51	18	23	2
038	54	58	64	51	20	25	2
040	56	60	66	53	20	25	2
042	58	62	68				
045	61	65	71				
048	64	68	74	60	20	25	2
050	66	70	76				
052	68	72	78	63	20	25	2
055	71	75	81				
058	76	83	89	66	22	28	2
060	78	85	93				
062	80	87	95				
065	83	90	98	70	22	28	2
068	86	93	101				
070	90	97	103	71	24	30	2
075	95	104	112	75	24	30	2
080	100	109	117	76	25	31	2
085	105	114	122	79	25	31	2
090	110	119	127				
095	115	124	132	81	25	31	2
100	120	129	137				
105	125	134	147				
110	132	139	160	85	30	40	2
120	142	150	170				
130	154	160	185				
140	164	170	200				

OPERATING LIMITS

- MAX. PRESSURE ---------- 12kg/cm²G
- TEMPERATURES -------- -60° C ~ +260° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ----------150,000cp
- SIZE---------- 20mm to 150mm

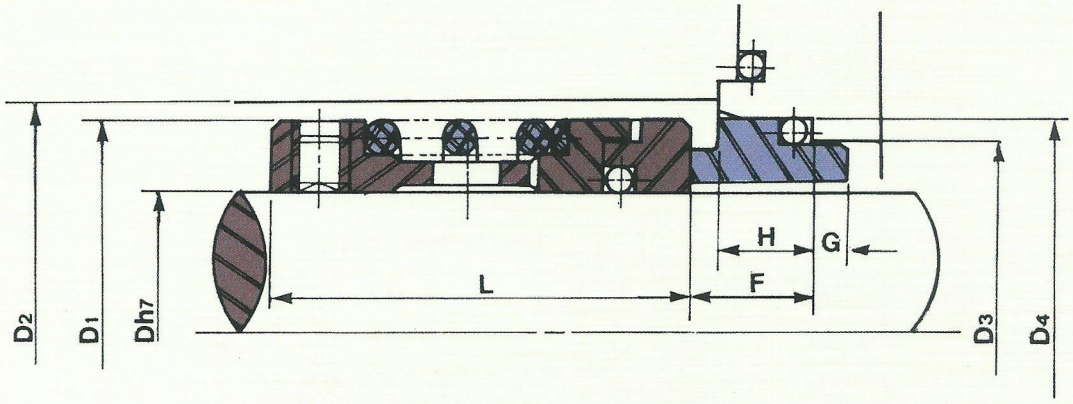
STANDARD CODES

S1 - 000 -1GAS 1
1GGS 2
1EAT 3

TAINO CO., LTD.

S2

SINGLE, UNBALANCE MONO-SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	D1	D2	D3	D4	L	H	F	G
020	34	36	30	36	44	8	11	4
022	36	38	32	38				
025	39	41	35	41	46	9	12	4
028	42	44	38	44				
030	44	46	40	46	48	10	13	4
032	46	48	42	48				
035	49	51	45	51	50	10	13	4
038	54	58	48	54				
040	56	60	50	56	52	11	14	4
042	58	62	52	58				
045	61	65	55	61				
048	64	68	58	64	59	12	15	4
050	66	70	60	66				
052	68	72	62	68	62	12	15	4
055	71	75	65	71				
058	76	83	70	76	65	12	15	4
060	78	85	72	78	65	13	16	4
062	80	87	74	80				
065	83	90	77	83	69	13	18	4
068	86	93	80	86				
070	90	95	81	90	70	15	18	4
075	95	104	86	95	74	15	18	4
080	100	109	91	100	75	15	18	4
085	105	114	96	105	78	15	18	4
090	110	119	101	110				
095	115	124	106	115	81	15	18	4
100	120	129	116	125	81	17	21	4
105	125	134	121	130				
110	132	139	126	135				
120	142	150	136	145	85	20	24	4
130	154	160	146	155				
140	164	175	161	170				
150	180	190	171	180				

OPERATING LIMITS

- MAX. PRESSURE ---------- 12kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ---------up to 15m/sec
- MAX. VISCOSITY ----------150,000cp
- SIZE---------- 20mm to 150mm

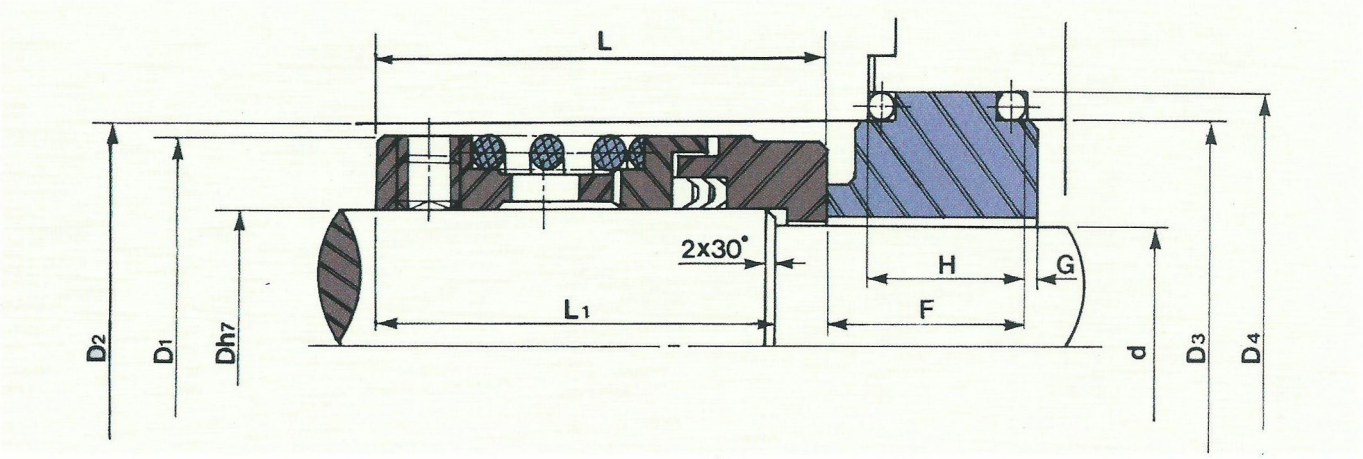
STANDARD CODES

S2 - 000 - 2 GAS 2
3 GGS 3
4 EET 3

TAINO CO., LTD.

SB1

SINGLE, BALANCE MONO-SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	d	D1	D2	D2	D4	L	L1	H	F	G
020	16	34	36	36	42	51	44	18	23	2
022	18	36	38	38	44					
025	20	39	41	41	47	53	46	18	23	2
028	24	42	44	44	50					
030	25	44	46	46	52	55	48	18	23	2
032	28	46	48	48	54					
035	30	49	51	51	57	57	50	18	23	2
038	33	54	58	58	64	57	50	20	25	2
040	35	56	60	60	66	59	52	20	25	2
042	37	58	62	62	68					
045	40	61	65	65	71					
048	43	64	68	68	74	66	58	20	25	2
050	45	66	70	70	76					
052	47	68	72	72	78	69	61	20	25	2
055	50	71	75	75	71					
058	53	76	83	83	89	72	63	22	25	2
060	55	78	85	85	93					
062	57	80	87	87	95					
065	60	83	90	90	98	76	67	22	28	2
068	63	86	93	93	101					
070	65	90	95	95	103	77	68	24	30	2
075	70	95	104	104	112	80	71	24	30	2
080	75	100	109	109	117	82	73	25	31	2
085	80	105	114	114	122	85	76	25	31	2
090	85	110	119	119	127					
095	90	115	124	124	132	88	79	25	31	2
100	95	120	129	129	137					
105	100	127	134	134	142					
110	105	132	139	139	147	92	83	25	31	2
120	110	144	150	150	160					
130	120	154	160	160	170					
140	130	164	175	175	185					
150	140	180	190	190	200					

OPERATING LIMITS

- MAX. PRESSURE ---------- 30kg/cm²G
- TEMPERATURES -------- -60° C ~ +260° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ----------150,000cp
- SIZE---------- 20mm to 150mm

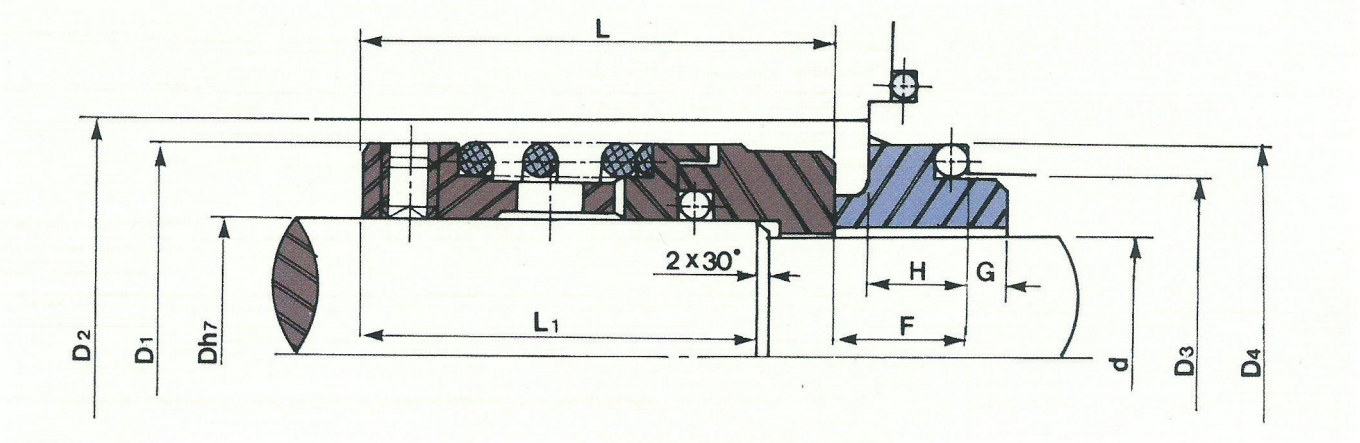
STANDARD CODES

SB1 - 000 - 1 GAS 1
1 GGS 2
4 EAT 3

TAINO CO., LTD.

SB2

SINGLE, BALANCE MONO-SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	d	D1	D2	D3	D4	L	L1	H	F	G
020	16	34	36	30	36	50	43	8	11	4
022	18	36	38	32	38					
025	20	39	41	35	41	52	45	9	12	4
028	24	42	44	38	44					
030	25	44	46	40	46	54	47	10	13	4
032	28	46	48	42	48					
035	30	49	51	44	50	56	49	10	13	4
038	33	54	58	48	54					
040	35	56	60	50	56	58	51	11	14	4
042	37	58	62	52	58					
045	40	61	65	55	61					
048	43	64	68	58	64	65	57	12	15	4
050	45	66	70	60	66					
052	47	68	72	62	68	68	60	12	15	4
055	50	71	75	65	71					
058	53	76	83	70	76	71	62	12	15	4
060	57	80	85	74	80	71	62	13	16	4
062	57	80	87	74	80					
065	60	83	90	77	83	75	66	13	16	4
068	63	86	93	80	86					
070	65	90	95	81	90	76	67	15	18	4
075	70	95	104	86	95	79	70	15	18	4
080	75	100	109	91	100	81	72	15	18	4
085	80	105	114	96	105	84	74	15	18	4
090	85	110	119	101	110					
095	90	115	124	106	115	87	77	15	18	4
100	95	120	129	116	125	87	77	17	21	4
105	100	127	134	121	130					
110	105	132	139	126	135	90	80	17	21	4
120	110	144	150	136	145					
130	120	154	160	146	155					
140	130	164	175	161	170					
150	140	180	190	180	190					

OPERATING LIMITS

- MAX. PRESSURE ---------- 30kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ---------up to 15m/sec
- MAX. VISCOSITY ----------150,000cp
- SIZE---------- 20mm to 150mm

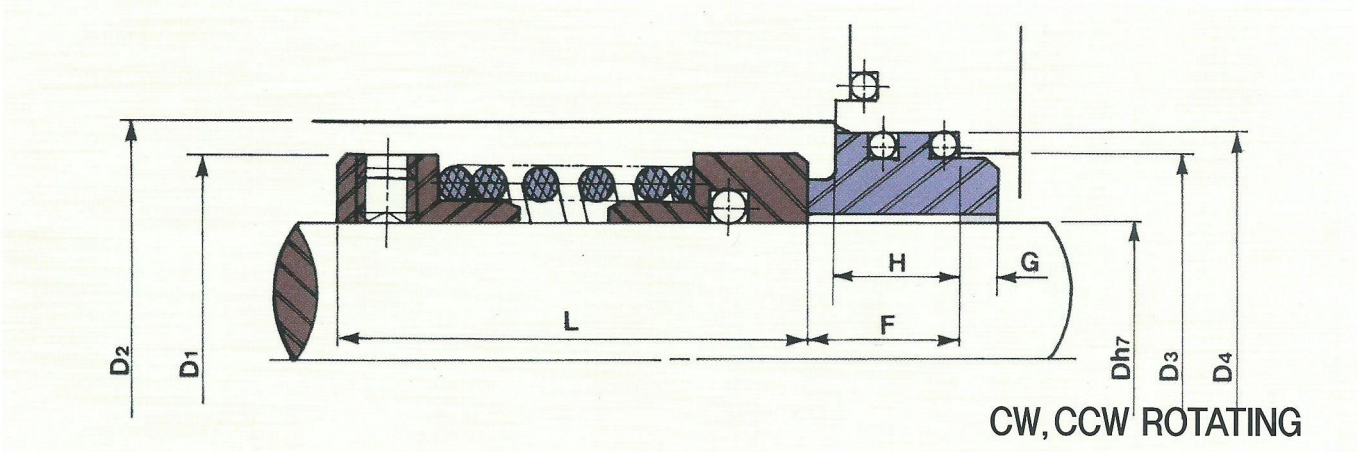
STANDARD CODES

SB2 - 000 - 2 GAS 1
3 GGS 2
4 EET 3

TAINO CO., LTD.

SC3

SINGLE, UNBALANCE MONO-SPRING TYPE SEAL



DIMENSION TABLE

ISO-3069

D	D1	D2	D3	D4	L	H	F	G
020	34	36	30	36	46	23	26	4
022	36	38	32	38				
025	39	41	35	41	47			
028	42	44	38	44	49			
030	44	46	40	46				
032	46	48	42	48	55	23	26	4
035	49	51	45	51				
038	54	58	48	54				
040	56	60	50	56	57	23	26	4
042	59	63	53	58				
045	61	65	55	61				
048	64	68	58	64	64	23	26	4
050	66	70	60	66	69	23	26	4
052	68	72	62	68				
055	71	75	65	71	71	23	26	4
060	80	85	72	78				
065	85	90	77	83	78	23	26	4
070	90	95	84	90	79	25	28	4
075	99	104	89	95	85	25	28	4
080	104	109	94	100				
085	109	114	99	105				
090	114	119	104	110	90	25	28	4
100	124	129	119	125				

OPERATING LIMITS

- MAX. PRESSURE ---------- 12kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ---------up to 15m/sec
- MAX. VISCOSITY ----------150,000cp
- SIZE---------- 20mm to 100mm

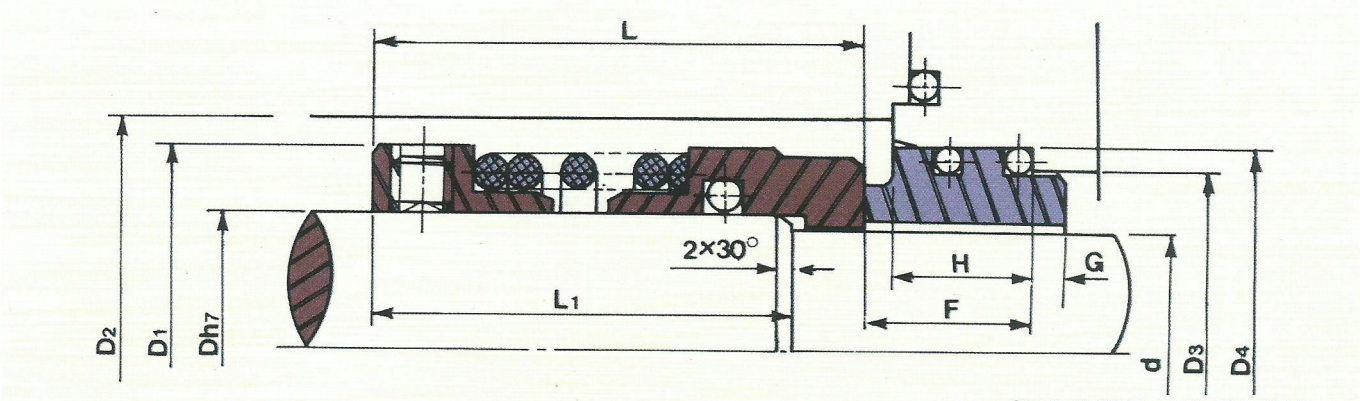
STANDARD CODES

SC3 - 000 - 2 GAS 1
3 GGS 2
4 EAT 3

TAINO CO., LTD.

SCB3

SINGLE, BALANCE MONO-SPRING TYPE SEAL



CW, CCW ROTATING

DIMENSION TABLE

ISO-3069

D	d	D1	D2	D3	D4	L	L1	H	F	G
020	16	34	36	30	36	51	44	23	26	4
022	18	36	38	32	38					
025	20	39	41	35	41	52	45			
028	24	42	44	38	44	54	47			
030	25	44	46	40	46					
032	28	46	48	42	48	60	53	23	26	4
035	30	49	51	45	51					
038	33	54	58	48	54	62	55	23	26	4
040	35	56	60	50	56					
042	37	59	63	53	58					
045	40	61	65	55	61					
048	43	64	68	58	64	69	62	23	26	4
050	45	66	70	60	66	74	67	23	26	4
052	47	68	72	62	68					
055	50	71	75	65	71	76	69	23	26	4
060	55	80	85	72	78					
065	60	65	85	90	77	83	76	23	26	4
070	65	90	95	84	90	84	77	23	28	4
075	70	99	104	89	95	90	83	25	28	4
080	75	104	109	94	100					
085	80	109	114	99	105					
090	85	114	119	104	110	95	88	25	28	4
095	90	119	124	109	115					
100	95	124	129	119	125					

OPERATING LIMITS

- MAX. PRESSURE ---------- 30kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ---------up to 15m/sec
- MAX. VISCOSITY ----------150,000cp
- SIZE---------- 20mm to 100mm

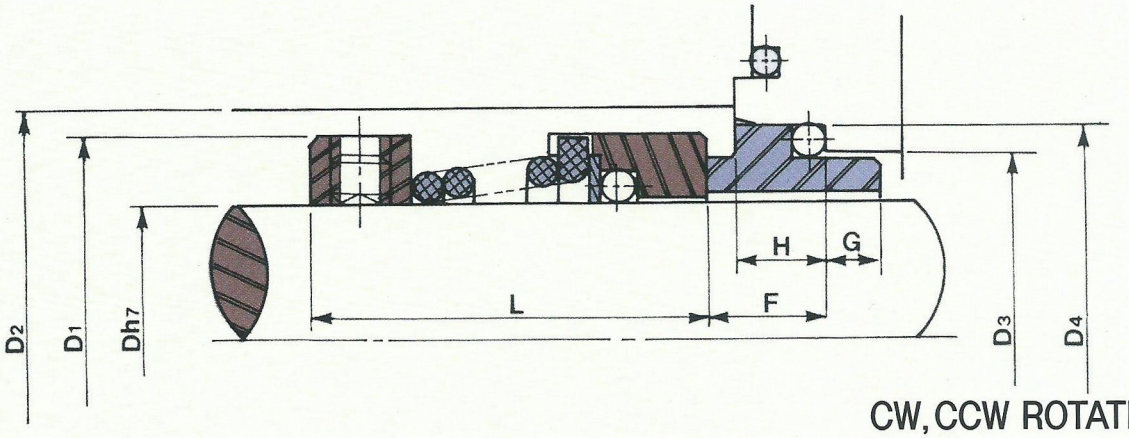
STANDARD CODES

SCB3 - 000 - 2 GAS 1
3 GGS 2
4 EAT 3

TAINO CO., LTD.

SD2

SINGLE, UNBALANCE TAPER SPRING TYPE SEAL



CW, CCW ROTATING

DIMENSION TABLE

DIN STANDARD

D	D1	D2	D3	D4	L	H	F	G
010	19	22	15.5	19.2	25.4	5.1	7.1	3
012	21	24	17.5	21.6	25.4	5.1	7.6	3
015	24	27	20.5	24.5	24.6	6.1	8.6	3
016	26	29	22	28	28.5	6.5	9	3
018	29	32	24	30	30	7	10	3
020	31	34	29.5	35	30	6.5	9.5	3
022	33	36	29.5	35	31.5	6.5	9.5	3
025	36	39	32	38	33	6.5	9.5	3
028	39	43	36	42	34.5	8	11	3
030	43	46	39.2	45				
032	46	49	42.2	48	38	38	11	3
035	49	52	46.2	52	38	38	11.5	3
038	53	56	49.2	55	31	31	11.5	3
040	56	59	52.2	58	34	34	11.5	3
042	59	62	53.3	62	35	35	14.3	3
045	61	64	55.3	64	36.5	36.5	14.3	3
048	64	67	59.7	68.4	52	52	14.3	3
050	66	69	608	69.3	55	55	14.3	3
055	71	74	66.5	75.4	59	59	15.3	3
058	76	79	69.5	78.4	62	62	15.3	3
060	78	81	71.5	80.4	63	63	15.3	3
065	84	87	76.5	85.4	64	64	15.3	3

OPERATING LIMITS

- MAX. PRESSURE ---------- 8kg/cm²G
- TEMPERATURES -------- -26° C ~ +205° C
- MAX. VELOCITY ---------up to 10m/sec
- MAX. VISCOSITY ----------1,500cp
- SIZE---------- 10mm to 65mm

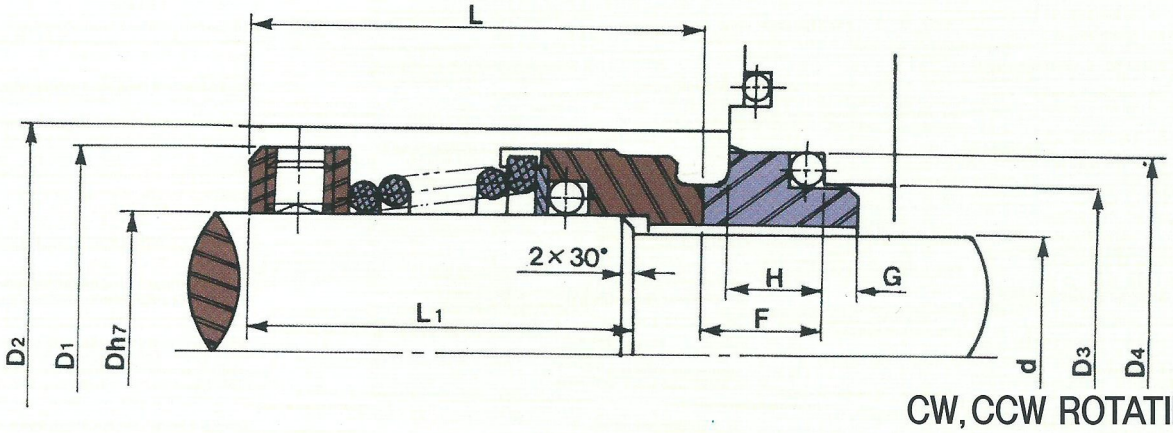
STANDARD CODES

SD2 - 000 - 2 GAS 1
2 GGS 2
3 EAT 2

TAINO CO., LTD.

SDB2

SINGLE, BALANCE TAPER-SPRING TYPE SEAL



CW, CCW ROTATING

DIMENSION TABLE

DIN STANDARD

D	d	D1	D2	D3	D4	L	L1	H	F	G
024	18	32	35	32	38	40	32.5	6.5	9.5	3
028	20	42	45	36	42	40	32.5	8	11	3
030	24	44	47	39.2	45	40	32.5	8	11	3
032	25	46	49	42.2	48	45	37.5	8	11	3
035	28	46	49	46.2	52	45	37.5	8.5	11.5	3
036	30	53	57	46.2	52	49.5	40.5	8.5	11.5	3
038	32	53	57	49.2	55	49.5	40.5	8.5	11.5	3
040	35	56	59	52.2	58	55	46.0	8.5	11.5	3
042	38	58	61	53.3	62	56	46.5	11.3	14.3	3
045	40	61	64	55.3	64	58	48	11.3	14.3	3
048	43	64	67	59.7	68.4	64	54	11.3	14.3	3
052	45	68	71	62.7	69.3	64	54	11.3	14.3	3
055	48	71	74	66.5	75.4	64	54	11.8	14.3	3
058	50	78	81	69.5	78.4	66	55	11.8	14.3	3
060	55	79	82	71.5	80.4	66	55	11.8	14.3	3
065	68	85	88	76.5	85.4	66	55	11.8	14.3	3
065	60	85	88	76.5	85.4	66	55	11.8	14.3	3

OPERATING LIMITS

- MAX. PRESSURE ---------- 25kg/cm²G
- TEMPERATURES ------- -26° C ~ +205° C
- MAX. VELOCITY ---------up to 10m/sec
- MAX. VISCOSITY ----------1,500cp
- SIZE---------- 24mm to 65mm

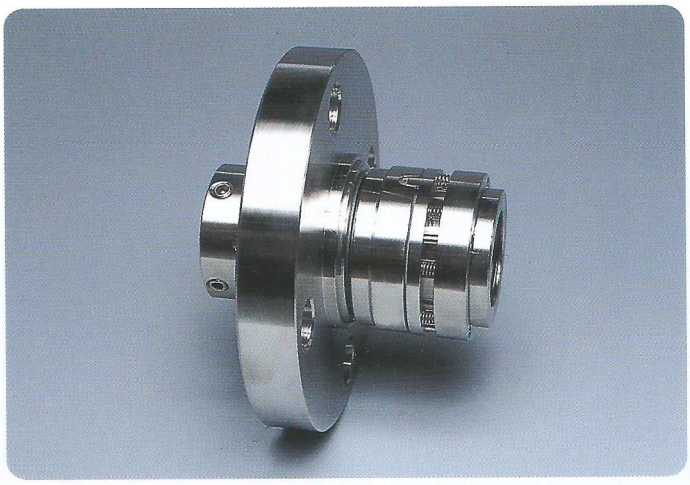
STANDARD CODES

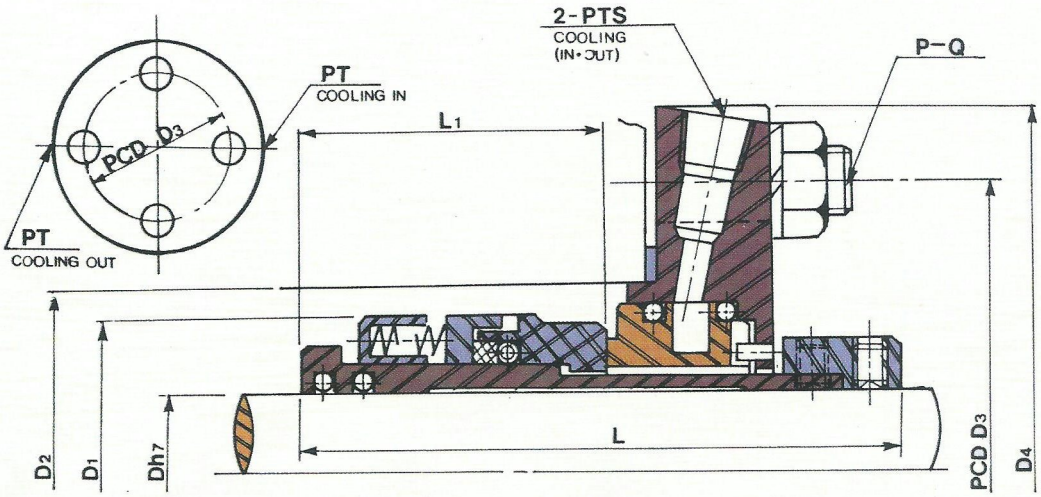
SDB2 - 000 - 2 GGS 1
3 EAS 2
4 EES 3

TAINO CO., LTD.

HTP2

SINGLE, BALANCE MULTI CARTRIDGE TYPE SEAL





DIMENSION TABLE

ISO-3069

D	D1	D2	D3	D4	L	L1	L1	S
020	44	48	75	110	101	52	4-M10	1/4B
022	46	50	78	110	101	52	4-M10	1/4B
025	49	55	88	110	101	52	4-M10	1/4B
028	54	60	100	125	104	52	4-M10	1/4B
030	56	62	103	125	104	53	4-M10	1/4B
032	61	67	105	125	104	53	4-M10	1/4B
035	64	70	110	130	104	53	4-M10	1/4B
038	66	72	119	132	105	53	4-M10	3/8B
040	68	76	120	150	113	55	4-M10	3/8B
045	71	80	125	150	113	58	4-M10	3/8B

STANDARD CODES

HTP2 - 000 - 2 EES3
1 GGS2
7 EET5
5 GGT1

OPERATING LIMITS

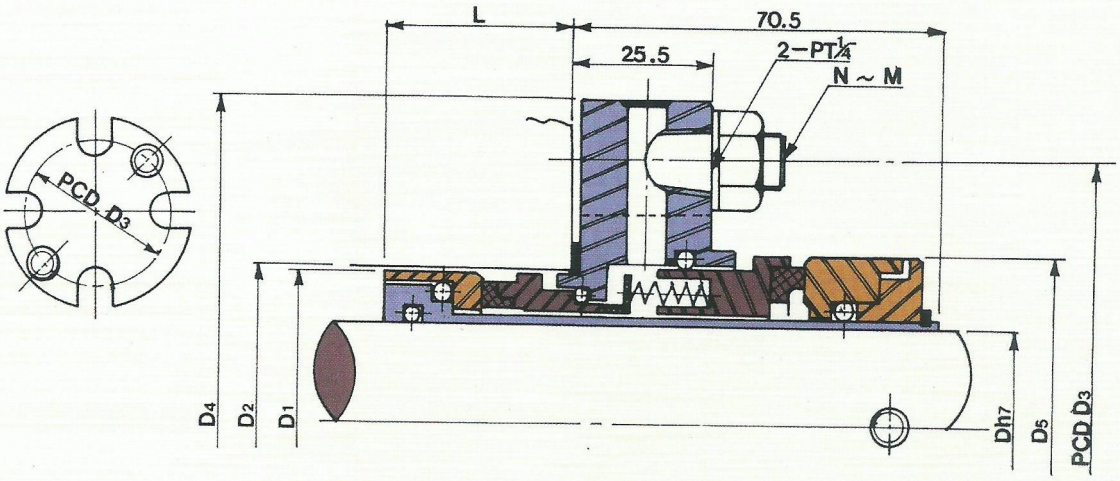
- MAX. PRESSURE ---------- 30kg/cm²G
- TEMPERATURES -------- -60° C ~ +300° C
- MAX. VELOCITY ----------up to 15m/sec
- MAX. VISCOSITY ----------300cp
- 고온응축수 PUMP(DRAIN CATCHER용)
- 고온.고압용 카트리지 타입 씰
- 특수소재 사용

HIT2 TYPE 초고온용

TAINO CO., LTD.

CAU

DOUBLE, BALANCE MULTI CARTRIDGE TYPE SEAL



DIMENSION TABLE

D	D1	D2	D3	D4	D5	L	N-M
025	39	44	80	105	49	38.5	4-M12
030	44	49	86	105	54	38.5	4-M12
035	49	54	90	115	59	38.5	4-M12
040	54	59	100	130	64	38.5	4-M12
045	59	64	108	140	69	39.5	4-M12
050	64	69	110	140	74	39.5	4-M12
055	69	74	121	155	79	39.5	4-M14
060	74	79	123	155	84	39.5	4-M14
065	79	84	132	165	89	39.5	4-M14
070	90	95	154	200	100	43.5	4-M14
075	95	100	159	205	105	43.5	4-M14
080	100	105	164	210	110	43.5	4-M14
085	105	110	168	215	115	43.5	4-M14
090	110	115	174	220	120	43.5	4-M18
095	115	120	180	225	125	43.5	4-M18
100	120	125	185	230	130	43.5	4-M20
110	128	135	195	240	140	43.5	4-M20
120	138	145	205	250	150	43.5	4-M20
130	148	155	225	260	160	43.5	4-M20
140	158	165	235	270	170	43.5	4-M20

OPERATING LIMITS

- PRESSURE ----VACUUM TO 30kg/cm²G
- *TEMPERATURES ------ -26° C ~ +270° C
- MAX. VELOCITY ----------up to 30m/sec
- *-26° C ~ +205° C (viton)
  -35° C ~ +150° C (EPR)
  -18° C ~ +260° C (kalrez)
- Reactor, Agitator and other Rotating equipment.

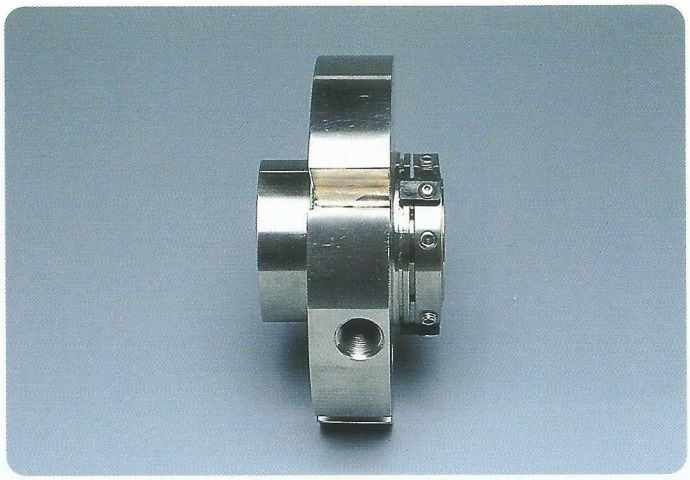
STANDARD CODES

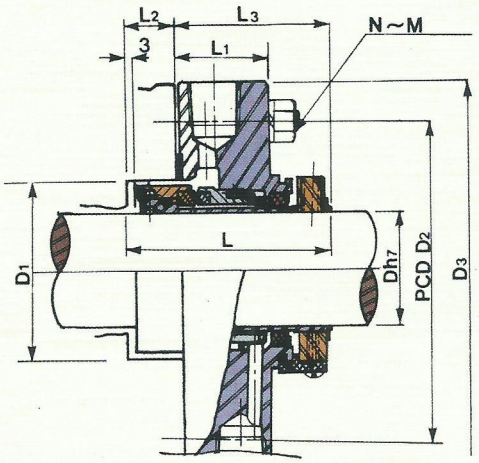
CAU - 000 - 2 GGS1
3 EES3
5 GGE2

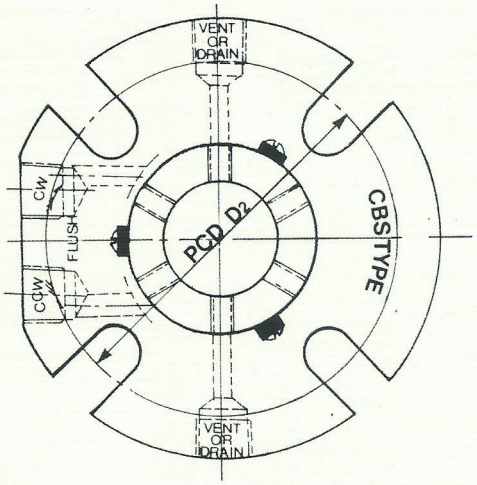
TAINO CO., LTD.

CBS

SINGLE, BALANCE WAVE SPRINGI CARTRIDGE TYPE SEAL







DIMENSION TABLE

신개발품

D	D1	D2	D3	L1	L2	L3	L	N-M
25	47	70	104	31	21	51	69	4-M10
28	50	73	107	31	21	51	69	4-M10
30(32)	54	75	110	31	21	51	69	4-M10
35	57	80	115	31	21	51	69	4-M12
38	64	85	125	31	24	51	72	4-M12
40	66	88	135	34	24	51	72	4-M12
45	70	92	140	34	24	51	72	4-M14
50	75	98	144	34	24	51	72	4-M14
55	80	103	150	34	24	51	72	4-M14
60	85	108	160	37	24	51	72	4-M16
65	90	115	175	37	24	51	72	4-M16
70	108	130	195	37	26	64	87	4-M16
75	114	140	200	37	26	64	87	4-M16
80	119	145	205	37	26	64	87	4-M16
85	124	150	210	41	26	64	87	4-M20
90	129	155	215	41	26	64	87	4-M20
95	134	160	220	41	26	64	87	4-M20
100	140	165	225	41	26	64	87	4-M20

OPERATING LIMITS

- MAX. PRESSURE ---------- 30kg/cm²G
- TEMPERATURES -------- -60° C ~ +300° C
- MAX. VELOCITY ----------up to 15m/sec

※WAVE SPRING, CARTRIDGE TYPE SEAL. HIGH PRESSURE and HIGH TEMPERATURE SEAL

※한국다이노 신개발품

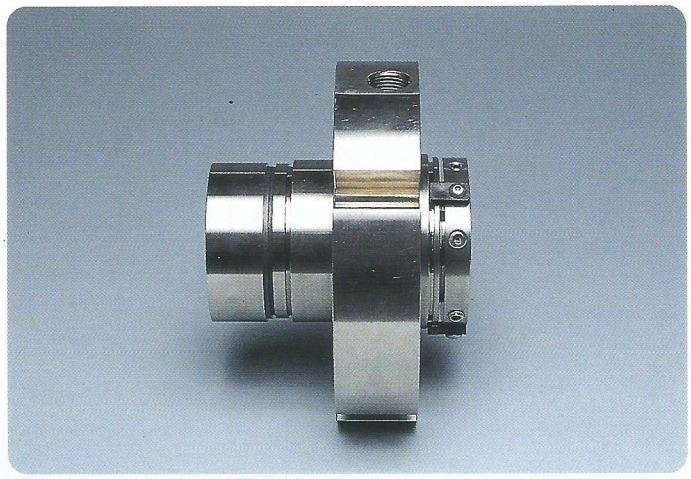
STANDARD CODES

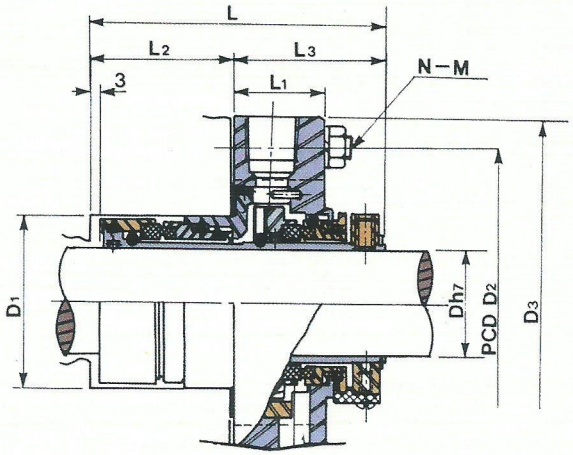
CBS - 000 - 1EES1
2GGT5
5GGT1

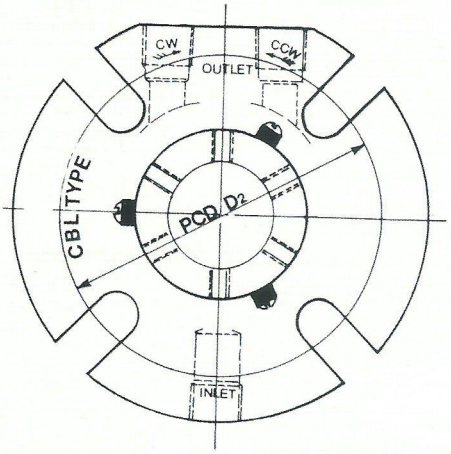
TAINO CO., LTD.

CBL

DOUBLE, BALANCE WAVE SPRINGI CARTRIDGE TYPE SEAL







DIMENSION TABLE

신개발품

D	D1	D2	D3	L1	L2	L3	L	N-M
25	47	70	104	31	21	51	69	4-M10
28	50	73	107	31	21	51	69	4-M10
30(32)	54	75	110	31	21	51	69	4-M10
35	57	80	115	31	21	51	69	4-M12
38	64	85	125	31	24	51	72	4-M12
40	66	88	135	34	24	51	72	4-M12
45	70	92	140	34	24	51	72	4-M14
50	75	98	144	34	24	51	72	4-M14
55	80	103	150	34	24	51	72	4-M14
60	85	108	160	37	24	51	72	4-M16
65	90	115	175	37	24	51	72	4-M16
70	108	130	195	37	26	64	87	4-M16
75	114	140	200	37	26	64	87	4-M16
80	119	145	205	37	26	64	87	4-M16
85	124	150	210	41	26	64	87	4-M20
90	129	155	215	41	26	64	87	4-M20
95	134	160	220	41	26	64	87	4-M20
100	140	165	225	41	26	64	87	4-M20

OPERATING LIMITS

- MAX. PRESSURE ---------- 30kg/cm²G
- TEMPERATURES -------- -60° C ~ +300° C
- MAX. VELOCITY ---------up to 15m/sec

※WAVE SPRING, CARTRIDGE TYPE SEAL. HIGH PRESSURE and HIGH TEMPERATURE SEAL

※한국다이노 신개발품

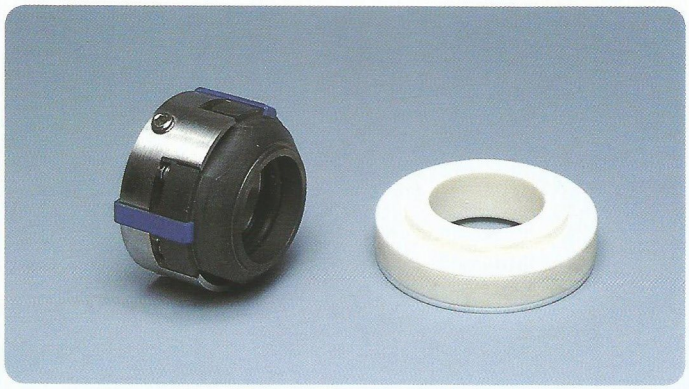
STANDARD CODES

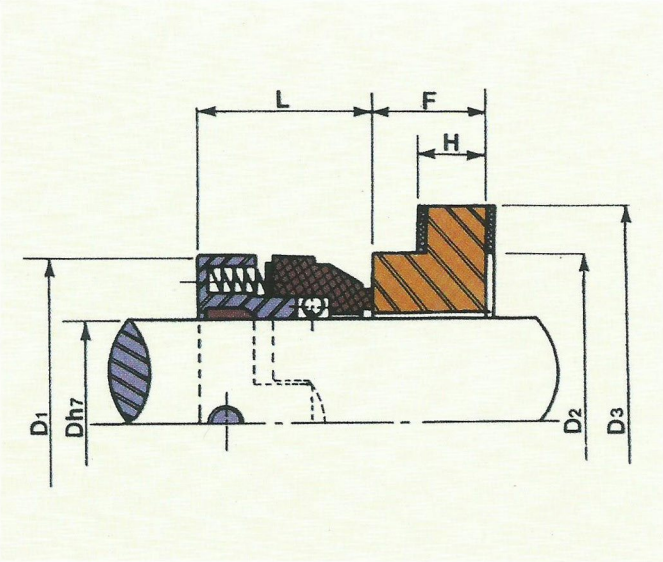
CBL - 000 - 2EES3
1GGD1
5DAH4

TAINO CO., LTD.

C04

SINGLE, OUTSIDE SEAL





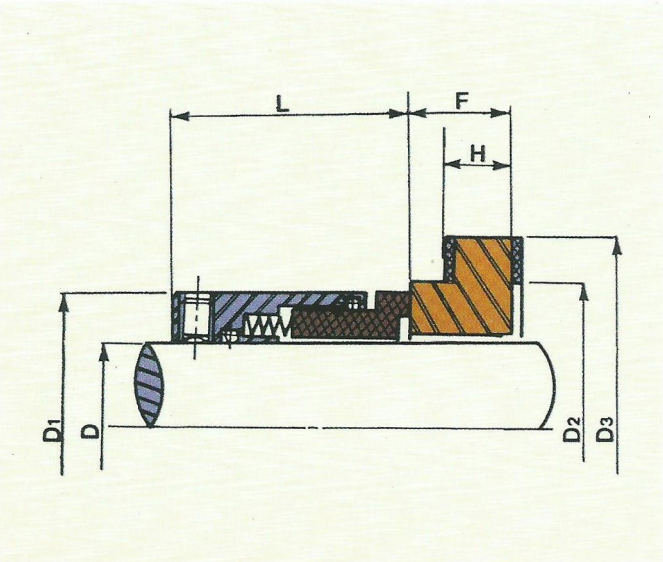
DIMENSION TABLE

신개발품

D	D1	D2	D3	F	H	L
25	50	41.5	54.5	17.3	12.5	38
30	57	46.5	63	17.3	12.5	38
35	60	51	62.5	17.3	12.5	38
40	65	60	73.5	17.3	12.5	38
45	70	64	80	17.3	12.5	38
50	75	70	89.5	17.3	12.5	38
55	80	73.5	96	17.3	12.5	38
60	85	78	99.5	17.3	12.5	38
65	90	85	105	17.3	12.5	38
70	95	90	110	17.3	12.5	38

CI4

SINGLE, INSIDE SEAL



DIMENSION TABLE

신개발품

D	D1	D2	D3	F	H	L
25	40	41.5	54.5	17.3	12.5	45
30	46	46.5	63	17.3	12.5	45
35	50	51	62.5	17.3	12.5	45
40	55	60	73.5	17.3	12.5	45
45	60	64	80	17.3	12.5	45
50	65	70	89.5	17.3	12.5	45
55	70	73.5	96	17.3	12.5	45
60	75	78	99.5	17.3	12.5	45
65	80	85	105	17.3	12.5	45
70	85	90	110	17.3	12.5	45

KOREA TAINO CO., LTD.

韓國다이노工業株式會社

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