



ISO 9001



CE



UL



WRC



JWWA

# The Axially Restraining Coupling Technical Revolution of Pipe Coupling!!



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NAM



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YOUNG NAM METAL CO., LTD.



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# STATUS OF ISO & CLASS TYPE APPROVAL

## "ISO 9001" APPROVED BY LLOYD(LRQA)

- YN IS THE FIRST COMPANY WHO ACQUIRED ISO 9001 BY LRQA IN PIPE COUPLING MANUFACTURERS
- TYPE APPROVAL ACQUIRED BY 10 CLASS SOCIETIES
- APPROVAL BY WRC UK
- APPROVAL BY JWVA JAPAN

## TYPE APPROVAL CERTIFICATES FOR YN COUPLINGS



(L.R)



(ABS)



(KR)



(GL)



(BV)



(RINA)



(MRS)



(CCS)



(NKK)



(DNV)

## WATER WORKS CERTIFICATES



(WRC)



(JWVA)

## REVOLUTION OF PIPING CONNECTIONS BY PIPE COUPLINGS!!

### *TECHNOLOGICAL REVOLUTION IN PIPE COUPLINGS FOR NEW INSTALLATION & REPAIR OF HOLED PARTS!*

1. SHORTENING OF WORK TIME
2. ULTIMATE ECONOMIC EFFECT BY SAVING OF RAW MATERIAL
3. EASY APPLICATION FOR NEW INSTALLATION & REPAIR
4. DURABLE LIFE SPAN

***"Brings you a revolution in piping technology  
for various industries hereafter"***



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# COUPLING FOR NEW INSTALLATION & REPAIR OF PIPELINES



MODEL 1 : GR-S  
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MODEL 2 : GR-L  
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MODEL 3 : MF-RS  
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MODEL 4 : MF-RL  
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MODEL 5 : RCH-S  
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MODEL 6 : RCH-L  
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MODEL 7 : RCD-S  
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MODEL 8 : RCD-L  
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MODEL 9 : RC-S  
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MODEL 10 : RC-L  
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## NAME OF PARTS



No	Name of Component	Name of Component	No	Name of Component	Name of Component	
1	CASING	SUS : 304	3	SLIDE PLATE	SUS : 304	
2	RUBBER SLEEVE	EPDM	Water, Air, Powders and General Water Steam(-30°C~+100°C)	4	BAR WASHER	SUS : 304
		NBR	For Natural Gas, Oil, Gasoline and Other Hydro-Carbon(-20°C~+80°C)	5	BAR NUT	SUS : 304
		SILICONE	Weather-Proof, Heat Resistance, High Insulation(-75°C~+200°C)	6	BOLT	SUS : 304
		VITON	Heat Resistance, Chemical Resistance(-95°C~+300°C)	7	GRIP RING	SUS : 304-H, SUS : 301-H
			8	INSERT PLATE	SUS : 304, PE	

\*Technical Data Will be Supplied upon request and some specification will be modified to improve the quality



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# GRIP RING COUPLING

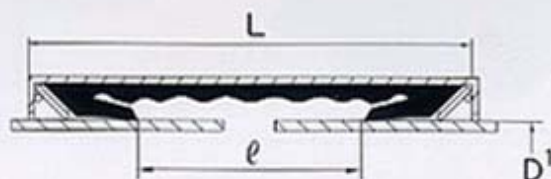
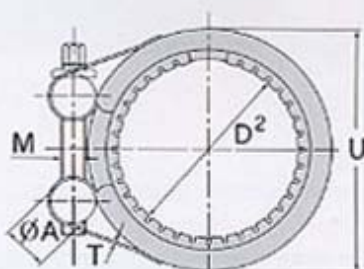


## Technical Data for New Installation



MODEL 1 : GR-S  
(GRIP RING STANDARD)

MODEL 2 : GR-L  
(GRIP RING LONG)



### GR-S

\*PIPE OD SPECIFICATION BY KS/JIS

MODEL/N.D	D¹ (O.D)	D² (RANGE)	M	ØA	L	e	T	U	W.P	W	P N(mgf/cm²)
GRS 20 A	27.2	26-28	M8x40Lx2BOLTS	12	57	21	1.0	47	30	0.26	5.8(50-80)
- 25 A	34.0	33-35	.	.	.	.	.	52	.	0.28	.
- 32 A	42.7	42-44	M8x45Lx2BOLTS	12	57	22	1.2	64	30	0.38	10-15(100-150)
- 40 A	48.6	47-49	.	.	.	.	.	68	.	0.40	.
- 50 A	60.5	59-62	M10x60Lx2BOLTS	16	81	32	1.5	84	24	0.85	15-20(150-200)
- 65 A	76.3	75-78	.	.	.	.	.	101	.	0.90	.
- 80 A	89.1	88-92	M12x70Lx2BOLTS	18	108	50	2.0	117	20	1.70	40-50(400-500)
- 100 A	114.3	113-117	.	.	.	.	.	142	.	1.90	.
- 125 A	139.8	138-142	M14x90Lx2BOLTS	22	121	55	3.5	176	18	3.86	90-100(900-1000)
- 150 A	165.2	163-167	.	.	.	.	.	201	.	4.40	.
- 200 A	216.3	214-219	M18x130Lx2BOLTS	30	159	72	4.5	256	14	9.05	120-180(100-1800)
- 250 A	267.4	265-270	.	.	.	.	3.0	300	.	7.4	.
- 300 A	318.5	316-321	M18x140Lx2BOLTS	32	155	70	3.0	350	12	9.4	20-150(120-1500)
- 350 A	355.6	353-358	.	.	.	.	3.0	400	.	10.2	.

### GR-L

MODEL/N.D	D¹ (O.D)	D² (RANGE)	M	ØA	L	e	T	U	W.P	W	P N(mgf/cm²)
GR-L 25 A	34.0	33-35	M8x45Lx3BOLTS	12	100	63	0.8	51	30	0.4	5.8(50-80)
- 32 A	42.7	42-44	M8x45Lx3BOLTS	12	100	63	1.0	62	.	0.5	10-15(100-150)
- 40 A	48.6	47-49	.	.	.	.	.	66	.	.	.
- 50 A	60.5	59-62	M10x60Lx3BOLTS	16	139	85	1.2	81	24	1.2	15-20(150-200)
- 65 A	76.3	75-78	.	.	.	.	.	100	.	1.3	.
- 80 A	89.1	88-92	M12x70Lx3BOLTS	18	203	125	1.5	115	20	2.1	40-50(400-500)
- 100 A	114.3	113-117	.	.	.	.	.	144	.	2.9	.
- 125 A	139.8	138-142	M14x90Lx3BOLTS	22	204	130	2.0	175	18	4.1	90-100(900-1000)
- 150 A	165.2	163-167	.	.	.	.	.	196	.	5.4	.
- 200 A	216.3	214-219	M16x120Lx3BOLTS	30	255	161	2.5	260	14	10.8	120-180(100-1800)
- 250 A	267.4	265-270	.	.	.	.	.	300	.	10.9	.
- 300 A	318.5	316-321	M18x140Lx3BOLTS	32	255	161	3.0	350	12	15.6	20-150(120-1500)
- 350 A	355.6	353-358	.	.	.	.	.	400	.	16.0	.

N,D : Nominal Diameter(A)

D¹ : Pipe outside Diameter by KS/JIS(m/m)

D² : Pipe Min-Max Range(m/m)

M : Tightening bolt SUS 304 or SCM 435(m/m)

ØA : Diameter of SUS 304 or S45C bar and barnut(m/m)

L : Length of Coupling(m/m)

e : Sealing sleeve lip's distance(m/m)

T : Thickness of SUS 304 Coupling case(m/m)

U : Coupling outside diameter(m/m)

W,P : Maximum working pressure(kg/cm²)

W : Weight per each set

P : Standard torque(Kgf·cm)

• Specification might be changed for quality improvement

• Specification by ASTM, DIN & ISO RULE is available.

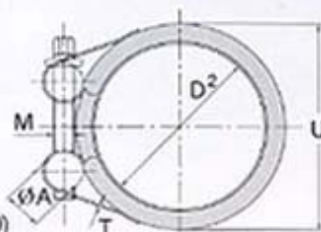
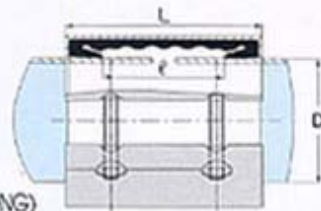


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## MULTI-FLEX COUPLING



## Technical Data for New Installation

MODEL 3: MF-RS  
(MULTI-FLEX ROUND STANDARD)MODEL 4: MF-RL  
(MULTI-FLEX ROUND LONG)

## MF-RS

※PIPE OD SPECIFICATION BY KS/JIS

MODEL/N.D	D¹ (O.D)	D² (RANGE)	M	ØA	L	t	T	U	W.P	W	P Nm(Kgf·cm)
MF-RS 15 A	21.7	21-23	M6×40L×2BOLTS	10	57	33	0.8	37	20	0.16	5-8(50-80)
- 20 A	27.2	26-28	.	.	.	.	.	46	.	0.2	.
- 25 A	34.0	33-35	.	.	.	.	.	51	.	.	.
- 32 A	42.7	42-44	M8×45L×2BOLTS	12	57	33	1.0	62	20	0.3	5-10(50-100)
- 40 A	48.6	47-49	.	.	.	.	1.2	66	.	0.4	.
- 50 A	60.5	59-62	M10×60L×2BOLTS	16	80	46	1.5	81	18	0.8	10-15(100-150)
- 65 A	76.3	75-78	.	.	.	.	.	100	.	0.9	.
- 80 A	89.1	88-92	M12×70L×2BOLTS	18	107	65	2.0	115	16	1.7	15-20(150-200)
- 100 A	114.3	113-117	.	.	.	.	.	144	.	2.0	.
- 125 A	139.8	138-142	M14×90L×2BOLTS	22	116	71	2.0	175	14	2.5	25-30(250-300)
- 150 A	165.2	163-167	.	.	.	.	.	196	.	2.9	.
- 200 A	216.3	214-219	M16×120L×2BOLTS	30	155	80	2.5	260	12	6.2	40-80(400-800)
- 250 A	267.4	265-270	.	.	.	.	.	300	.	7.2	.
- 300 A	318.5	316-321	M18×140L×2BOLTS	32	155	80	3.0	350	10	8.5	80-120(800-1200)
- 350 A	355.6	353-358	.	.	.	.	.	400	.	10.2	.
- 400 A	406.4	403-408	M18×150L×2BOLTS	32	155	100	3.0	450	8	11.3	80-120(800-1200)
- 450 A	457.2	455-461	.	.	.	.	.	500	.	12.1	.
- 500 A	508.0	505-512	M18×165L×2BOLTS	.	.	.	.	550	7	13.2	120-150(1200-1500)

## MF-RL

MODEL/N.D	D¹ (O.D)	D² (RANGE)	M	ØA	L	t	T	U	W.P	W	P Nm(Kgf·cm)
MF-RL 25 A	34.0	33-35	M8×45L×3BOLTS	12	100	70	0.8	51	20	0.4	5-8(50-80)
- 32 A	42.7	42-44	M8×45L×3BOLTS	12	100	70	1.0	62	20	0.5	5-10(50-100)
- 40 A	48.6	47-49	.	.	.	.	.	66	.	.	.
- 50 A	60.5	59-62	M10×60L×3BOLTS	16	139	99	1.2	81	18	1.2	10-15(100-150)
- 65 A	76.3	75-78	.	.	.	.	.	100	.	1.3	.
- 80 A	89.1	88-92	M12×70L×3BOLTS	18	203	150	1.5	115	16	2.7	15-20(150-200)
- 100 A	114.3	113-117	.	.	.	.	.	144	.	3.1	.
- 125 A	139.8	138-142	M14×90L×3BOLTS	22	204	138	2.0	175	14	4.8	25-30(250-300)
- 150 A	165.2	163-167	.	.	.	.	.	196	.	5.6	.
- 200 A	216.3	214-219	M16×120L×3BOLTS	30	255	180	2.5	260	12	10.7	40-80(400-800)
- 250 A	267.4	265-270	.	.	.	.	.	300	.	.	.
- 300 A	318.5	316-321	M18×140L×3BOLTS	32	255	180	3.0	350	10	14.9	80-120(800-1200)
- 350 A	355.6	353-358	.	.	.	.	.	400	.	15.2	.
- 400 A	406.4	403-408	M18×150L×3BOLTS	32	255	170	3.0	450	8	17.6	80-120(800-1200)
- 450 A	457.2	455-461	.	.	.	.	.	500	.	18.2	.
- 500 A	508.0	505-512	M18×165L×3BOLTS	.	.	.	.	550	7	21.5	120-150(1200-1500)

N.D: Nominal Diameter(A)

D¹: Pipe outside Diameter by KS/JIS(m/m)

D²: Pipe Min-Max Range(m/m)

M: Tightening bolt SUS 304 or SCM 435(m/m)

ØA: Diameter of SUS 304 or S45C bar and barnut(m/m)

L: Length of Coupling(m/m)

t: Sealing sleeve lip's distance(m/m)

T: Thickness of SUS 304 Coupling case(m/m)

U: Coupling outside diameter(m/m)

W.P: Maximum working pressure(kg/cm²)

W: Weight per each set

P: Standard torque(Kgf·cm)

• Specification might be changed for quality improvement

• Specification by ASTM, DIN &amp; ISO RULE is available.

※ 550A~3000A available by order



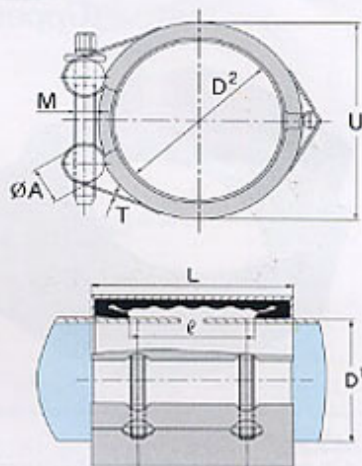
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## REPAIR CLAMP HINGE COUPLING



## Technical Data of Hinge Type Clamp

(For New Installation &amp; Repair)

MODEL 5 : RCH-S  
(REPAIR CLAMP HINGE STANDARD)MODEL 6 : RCH-L  
(REPAIR CLAMP HINGE LONG)

## RCH-S

\*PIPE OD SPECIFICATION BY KS/JIS

MODEL / N.D	D <sup>1</sup> (O.D)	D <sup>2</sup> (RANGE)	M	∅A	L	ℓ	T	U	W.P	W	P Nm(Kgf·cm)
RCH-S 20 A	27.2	26-28	M6×50L×2BOLTS	10	57	33	0.8	46	18	0.2	3-5(30-50)
- 25 A	34.0	33-35	-	-	-	-	-	51	-	-	-
- 32 A	42.7	42-44	M8×55L×2BOLTS	12	57	33	1.0	62	18	0.35	4-6(40-60)
- 40 A	48.6	47-49	-	-	-	-	-	66	-	-	-
- 50 A	60.5	59-62	M10×70L×2BOLTS	16	80	46	1.2	81	16	0.8	8-10(80-100)
- 65 A	76.3	75-78	-	-	-	-	-	100	-	0.86	-
- 80 A	89.1	88-92	M12×85L×2BOLTS	18	107	65	1.5	115	14	1.6	12-15(120-150)
- 100 A	114.3	113-117	-	-	-	-	-	144	-	1.8	-
- 125 A	139.8	138-142	M14×115L×2BOLTS	22	116	71	2.0	175	12	3.0	20-25(200-250)
- 150 A	165.2	163-167	-	-	-	-	-	196	-	3.2	-
- 200 A	216.3	214-219	M16×150L×2BOLTS	30	155	80	2.5	260	10	7.0	25-30(250-300)
- 250 A	267.4	265-270	-	-	-	-	-	300	-	7.9	-
- 300 A	318.5	316-321	M18×150L×2BOLTS	32	155	80	3.0	350	8	9.0	40-80(400-800)
- 350 A	355.6	353-358	-	-	-	-	-	400	-	11.0	-
- 400 A	406.4	403-408	M18×165L×2BOLTS	32	155	100	3.0	450	7	12.3	80-100(800-1000)
- 450 A	457.2	455-461	-	-	-	-	-	500	-	13.0	-
- 500 A	508.0	505-512	-	-	-	-	-	550	6	14.1	100-120(1000-1200)

## RCH-L

MODEL / N.D	D <sup>1</sup> (O.D)	D <sup>2</sup> (RANGE)	M	∅A	L	ℓ	T	U	W.P	W	P Nm(Kgf·cm)
RCH-L 25 A	34.0	33-35	M8×55L×3BOLTS	12	100	70	0.8	51	18	0.4	3-5(30-50)
- 32 A	42.7	42-44	M8×55L×3BOLTS	12	100	70	1.0	62	18	0.5	4-6(40-60)
- 40 A	48.6	47-49	-	-	-	-	-	66	-	0.6	-
- 50 A	60.5	59-62	M10×70L×3BOLTS	16	139	99	1.2	81	16	1.4	8-10(80-100)
- 65 A	76.3	75-78	-	-	-	-	-	100	-	1.5	-
- 80 A	89.1	88-92	M12×85L×3BOLTS	18	203	150	1.5	115	14	3.1	12-15(120-150)
- 100 A	114.3	113-117	-	-	-	-	-	144	-	3.4	-
- 125 A	139.8	138-142	M14×115L×3BOLTS	22	204	138	2.0	175	12	4.7	20-25(200-250)
- 150 A	165.2	163-167	-	-	-	-	-	196	-	5.9	-
- 200 A	216.3	214-219	M16×150L×3BOLTS	30	255	180	2.5	260	10	12.2	25-30(250-300)
- 250 A	267.4	265-270	-	-	-	-	-	300	-	13.5	-
- 300 A	318.5	316-321	M18×150L×3BOLTS	32	255	180	3.0	350	8	16.3	40-80(400-800)
- 350 A	355.6	353-358	-	-	-	-	-	400	-	18.6	-
- 400 A	406.4	403-408	M18×165L×3BOLTS	32	255	170	3.0	450	7	20.4	80-100(800-1000)
- 450 A	457.2	455-461	-	-	-	-	-	500	-	21.6	-
- 500 A	508.0	505-512	-	-	-	-	-	550	6	23.8	100-120(1000-1200)

N.D : Nominal Diameter(A)

D<sup>1</sup> : Pipe outside Diameter by KS/JIS(m/m)D<sup>2</sup> : Pipe Min-Max Range(m/m)

M : Tightening bolt SUS 304 or SCM 435(m/m)

∅A : Diameter of SUS 304 or S45C bar and barnut(m/m)

L : Length of Coupling(m/m)

ℓ : Sealing sleeve lip's distance(m/m)

T : Thickness of SUS 304 Coupling case(m/m)

U : Coupling outside diameter(m/m)

W.P : Maximum working pressure(kg/∅)

W : Weight per each set

P : Standard torque(Kgf·cm)

• Specification might be changed for quality improvement

• Specification by ASTM, DIN &amp; ISO RULE is available.

\* 550A~3000A available by order



Y.N.

# REPAIR CLAMP DOUBLE LOCK COUPLING



## Technical Data of Double Lock Type Coupling

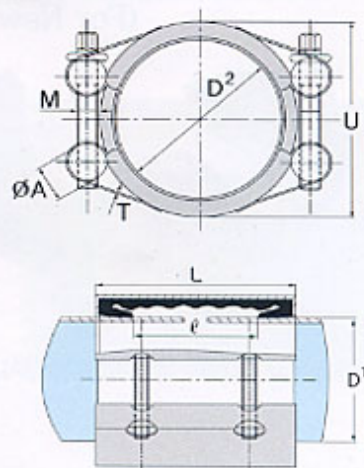
(Upper & Lower Part Type)



MODEL 7 : RCD-S  
(REPAIR CLAMP DOUBLE LOCK STANDARD)



MODEL 8 : RCD-L  
(REPAIR CLAMP DOUBLE LOCK LONG)



### RCD-S

\*PIPE OD SPECIFICATION BY KS/JIS

MODEL/ND	D <sup>1</sup> (O.D.)	D <sup>2</sup> (RANGE)	M	ØA	L	ℓ	T	U	W.P	W	P Nm(kgf·cm)
RCD-S 20 A	27.2	26-28	M6×35L×4BOLTS	10	57	33	0.8	46	20	0.3	5-8(50-80)
- 25 A	34.0	33-35	-	-	-	-	-	51	-	-	-
- 32 A	42.7	42-44	M8×45L×4BOLTS	12	57	33	1.0	62	20	0.5	8-12(80-120)
- 40 A	48.6	47-49	-	-	-	-	-	66	-	0.6	-
- 50 A	60.5	59-62	M10×55L×4BOLTS	16	80	46	1.2	81	18	1.1	10-15(100-150)
- 65 A	76.3	75-78	-	-	-	-	-	100	-	-	-
- 80 A	89.1	88-92	M12×60L×4BOLTS	18	107	65	1.5	115	16	2.1	15-20(150-200)
- 100 A	114.3	113-117	-	-	-	-	-	144	-	2.3	-
- 125 A	139.8	138-142	M14×70L×4BOLTS	22	116	71	2.0	175	14	3.7	25-30(250-300)
- 150 A	165.2	163-167	-	-	-	-	-	196	-	4.0	-
- 200 A	216.3	214-219	M16×110L×4BOLTS	30	155	80	2.5	260	12	8.8	40-80(400-800)
- 250 A	267.4	265-270	-	-	-	-	-	300	-	9.7	-
- 300 A	318.5	316-321	M18×130L×4BOLTS	32	155	80	3.0	350	10	12.0	80-120(800-1200)
- 350 A	355.6	353-358	-	-	-	-	-	400	-	13.0	-
- 400 A	406.4	403-408	M18×140L×4BOLTS	32	155	100	3.0	450	8	14.3	80-120(800-1200)
- 450 A	457.2	455-461	-	-	-	-	-	500	-	15.0	-
- 500 A	508.0	505-512	M18×150L×4BOLTS	-	-	-	-	550	7	16.0	120-150(1200-1500)

### RCD-L

MODEL/ND	D <sup>1</sup> (O.D.)	D <sup>2</sup> (RANGE)	M	ØA	L	ℓ	T	U	W.P	W	P Nm(kgf·cm)
RCD-L 25 A	34.0	33-35	M8×45L×6BOLTS	12	100	70	0.8	51	20	0.6	5-8(50-80)
- 32 A	42.7	42-44	M8×45L×6BOLTS	12	100	70	1.0	62	20	0.7	8-12(80-120)
- 40 A	48.6	47-49	-	-	-	-	-	66	-	0.8	-
- 50 A	60.5	59-62	M10×55L×6BOLTS	16	139	99	1.2	81	18	1.9	10-15(100-150)
- 65 A	76.3	75-78	-	-	-	-	-	100	-	2.1	-
- 80 A	89.1	88-92	M12×60L×6BOLTS	18	203	150	1.5	115	16	4.0	15-20(150-200)
- 100 A	114.3	113-117	-	-	-	-	-	144	-	4.4	-
- 125 A	139.8	138-142	M14×70L×6BOLTS	22	204	138	2.0	175	14	6.0	25-30(250-300)
- 150 A	165.2	163-167	-	-	-	-	-	196	-	6.4	-
- 200 A	216.3	214-219	M16×110L×6BOLTS	30	255	180	2.5	260	12	12.0	40-80(400-800)
- 250 A	267.4	265-270	-	-	-	-	-	300	-	14.8	-
- 300 A	318.5	316-321	M18×130L×6BOLTS	32	255	180	3.0	350	10	19.2	80-120(800-1200)
- 350 A	355.6	353-358	-	-	-	-	-	400	-	22.0	-
- 400 A	406.4	403-408	M18×140L×6BOLTS	32	255	170	3.0	450	8	24.0	80-120(800-1200)
- 450 A	457.2	455-461	-	-	-	-	-	500	-	25.8	-
- 500 A	508.0	505-512	M18×150L×6BOLTS	-	-	-	-	550	7	27.0	120-150(1200-1500)

N.D : Nominal Diameter(A)

D<sup>1</sup> : Pipe outside Diameter by KS/JIS(m/m)

D<sup>2</sup> : Pipe Min-Max Range(m/m)

M : Tightening bolt SUS 304 or SCM 435(m/m)

ØA : Diameter of SUS 304 or S45C bar and barnut(m/m)

L : Length of Coupling(m/m)

ℓ : Sealing sleeve lip's distance(m/m)

T : Thickness of SUS 304 Coupling case(m/m)

U : Coupling outside diameter(m/m)

W.P : Maximum working pressure(kg/cm<sup>2</sup>)

W : Weight per each set

P : Standard torque(Kgf·cm)

• Specification might be changed for quality improvement  
• Specification by ASTM, DIN & ISO RULE is available.

\* 550A~3000A available by order



Y. N.

# APPLICATION OF PIPE COUPLING



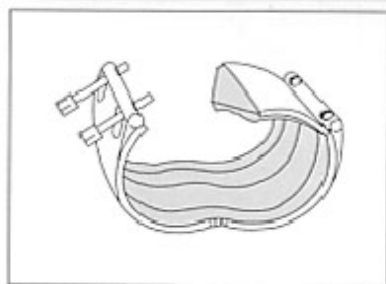
## Versatile, economical

YN-Multiflex pipe couplings are used everywhere there are pipes. They can quickly join even piping of different materials. The flexible joints, requiring no special tools, are completely tight and durable. They also allow a diameter difference and a substantial inclined deviation between pipe diameters.

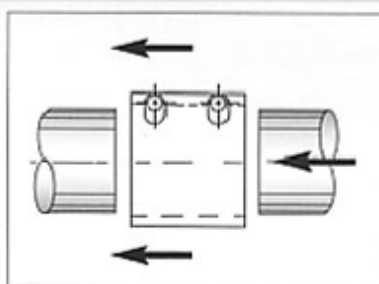
## The most common applications are

- as flexible elements in industrial piping
- for quick piping modifications used together with the YN-modules system
- for connecting together pre-manufactured piping
- in restricted spaces and spaces with a fire risk: as a piping extension
- in locations where speed of construction is important
- for piping susceptible to blockage
- in shipbuilding to save weight and space and also to eliminate noise resonance and vibration
- for connecting piping of different materials together
- in the stress-free construction of under ground metal piping containing pressure
- for fast and reliable repair of all types of piping

## YN-Multiflex couplings have many advantages



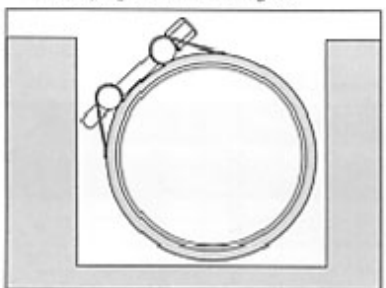
1) Suitable for new building and repair work. The piping can be quickly disassembled and the couplings can be used again.



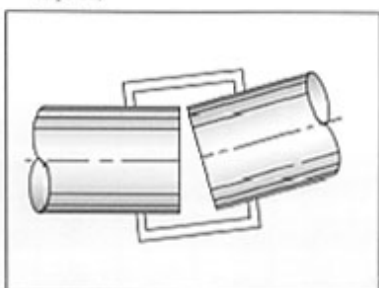
2) Installation is fast and troublefree. Neither special tools nor expertise are required.



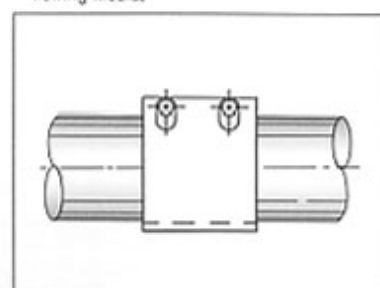
3) Completely corrosion-free construction. Only the rubber sealing is in contact with the flowing media.



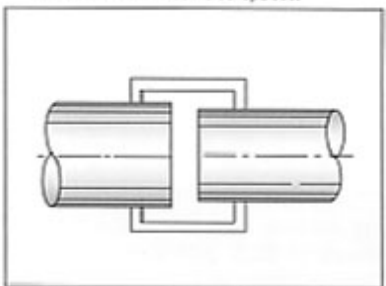
4) Light weight space-saving construction. Easy to install even in restricted spaces.



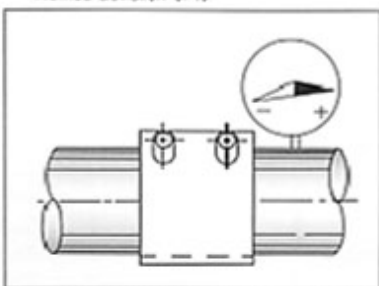
5) YN-Multiflex pipe couplings allow a maximum inclined deviation of 10°



6) The coupling acts as a flexible compensator for movements caused by heat and also effectively dampens vibration.



7) The difference in diameters between the pipes to be joined may be 4mm and the coupling is suitable for all piping materials.



8) By virtue of its construction, the coupling is just as reliable in piping containing pressure above or below atmospheric pressure.

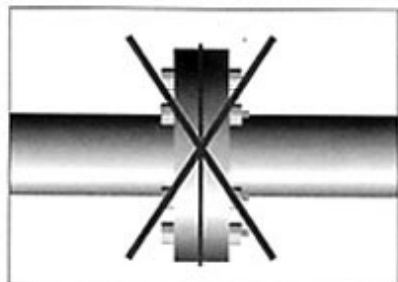
*YN-Multiflex couplings produce a fast and flexible joint which lengthens the lifetime of the piping and lowers maintenance costs.*



Y. N.

# OPERATING PRINCIPLE AND INSTALLATION

## Advantage 1

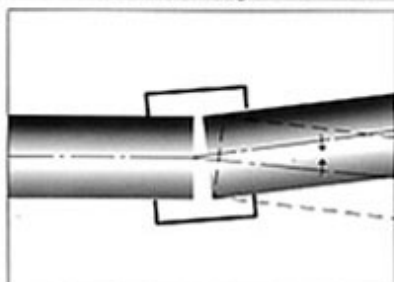


**YOUNGNAM GRIP RING COUPLING**  
*is simple to install.*

Just cut pipe to length, position ends together and tighten bolts instead of welding, flanging, threading or grooving. One man is enough.

Anyone can do it.

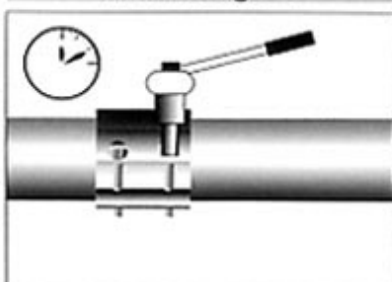
## Advantage 2



**YOUNGNAM GRIP RING COUPLING**  
*takes up inaccuracies.*

Metal pipes are joined securely and resistant to pressure in spite of a gap between pipe ends, misaligned pipes or rough surfaces.

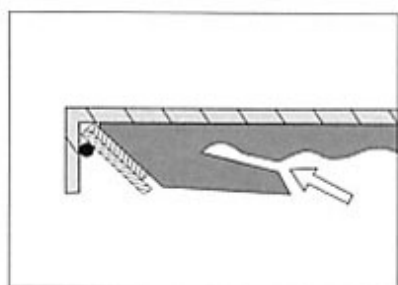
## Advantage 3



**YOUNGNAM GRIP RING COUPLING**  
*is ready to install immediately.*

A ready-to-use pipe coupling. Fitted in a matter of minutes without heavy equipment and long setting up times.

## Advantage 4

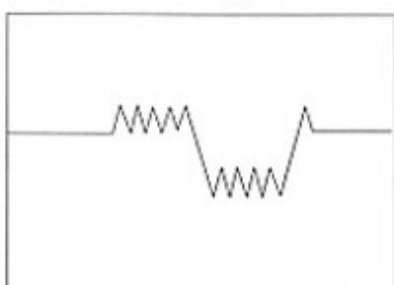


**YOUNGNAM GRIP RING COUPLING**  
*is long lasting.*

The low-stressed sealing gasket is highly chemical resistant and provides a longterm reliable seal-ing.

Corrosion-resistant metal parts.

## Advantage 5

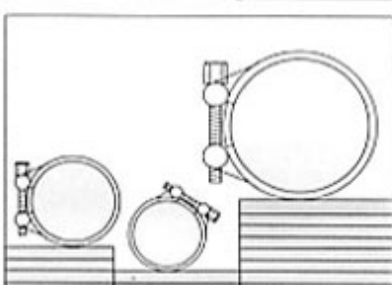


**YOUNGNAM GRIP RING COUPLING**  
*reliable in operation.*

Progressive sealing effect and powerful gripping force. Dampens water hammer, vibration and structureborne noise.

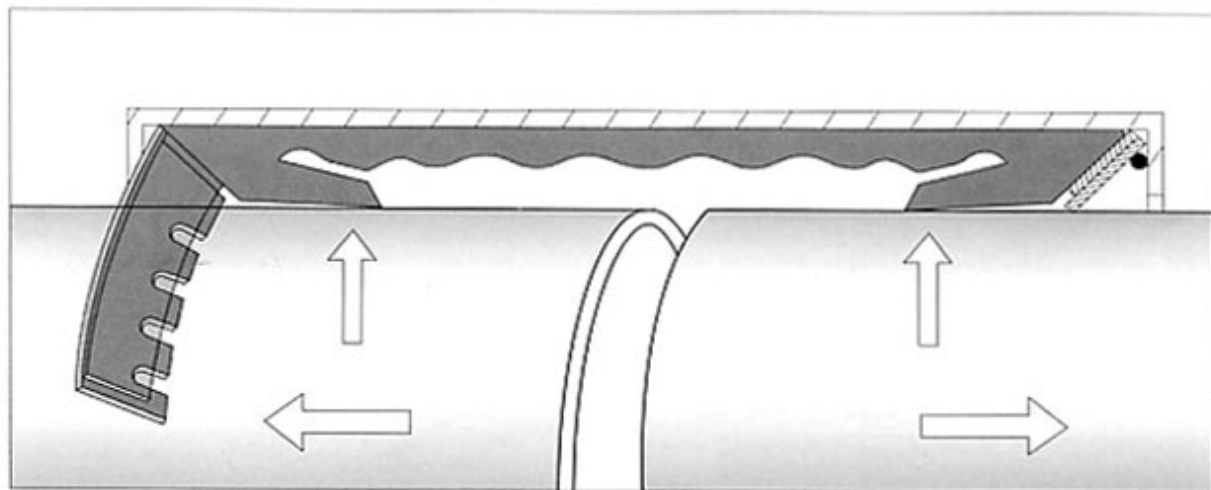
Protects pipes and other equipment.

## Advantage 6



**YOUNGNAM GRIP RING COUPLING**  
*saves costly space.*

The compact design with only two locking points permits close pipe spacing, small diameter insulation and smaller openings for pipes.



## VARIOUS TEST METHOD

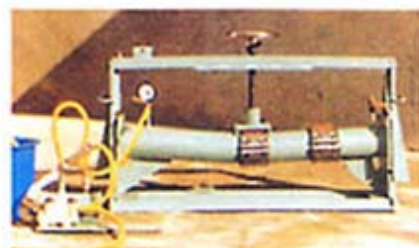
### 1. HYDRO PRESSURE TEST

MODEL	TESTED PRESSURE	TEST RESULT	FINAL HYDRO TEST RESULT
MF-RS 100	32kg/cm <sup>2</sup>	5 MIN KEPT RESULT:GOOD	50kg/cm <sup>2</sup> TESTED RESULT:GOOD



### 2. BENDING TEST

MODEL	TESTED PRESSURE	FINAL BENDING ANGLE	TEST RESULT
MF-RS 100	32kg/cm <sup>2</sup>	BOTH SIDE 10°	RESULT:GOOD



### 3. FIRE ENDURANCE TEST

MODEL	TESTED PRESSURE	TESTED TIME	TESTED TEMPERATURE	TEST RESULT
MF-RS 100	5.0kg/cm <sup>2</sup>	30 MIN	800°C	GOOD



TEST LABORATORY:KOREA INSTITUTE OF MACHINERY & MATERIALS  
RULE APPLIED:G.L.

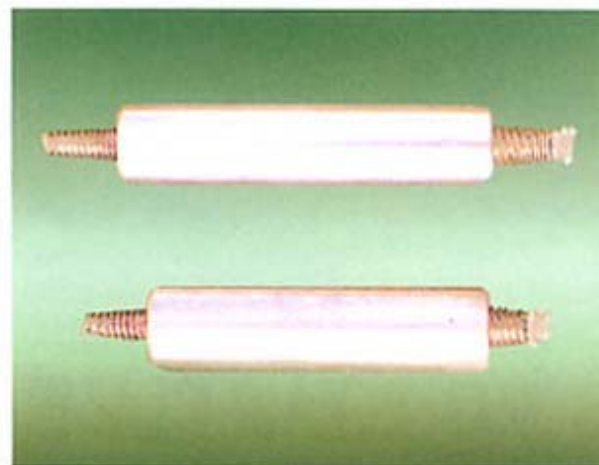
CONTENT:NO LEAKAGE & DEFORMATION OF THE PRODUCT WHEN TESTED 30 MIN AT 800°C WITH 5.0kg/cm<sup>2</sup> CIRCULATION

## TEST REPORT

#### ● TENSILE STRENGTH FOR STAINLESS STEEL BOLTS

TEST ITEM	TEST RESULT	
	BOLT M14	BOLT M18
STRENGTH OF BOLTS(kgf/cm <sup>2</sup> )	99	120

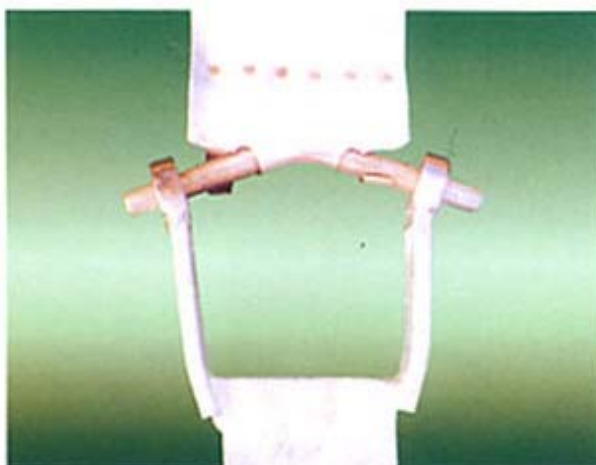
↓ KS B 0223('91)



#### ● TENSILE STRENGTH FOR WELDED PARTS

TEST ITEM	TEST RESULT
LOAD FOR WELDED PATRS	5,676(kgf)

↓ KS B 0802('91)REMARK:SPOT WELDING 6 POINT×1.0I



● TEST LABORATORY:INDUSTIAL TECHNOLOGY INSTITUTE OF PUSAN

## ●PULL-OUT TEST(BY SAFETY ECONOMY ENGINEERING)



GR-S		GR-L	
SIZE	LOAD(TON)	SIZE	LOAD(TON)
25A	0.3	100A	2.0
50A	0.6	150A	3.6
100A	2.0	300A	10.1
300A	9.5		

●TEST: VIBRATION TEST, TIGHTNESS TEST & VACUUM TEST  
(TEST SPECIMEN : 200A GR-S COUPLING)

### 1. VACUUM TEST

VIBRATION TIME	NO OF CYCLES	AMPLITUDE (mm)	FREQUENCY (S <sup>-1</sup> )	RESULT
REPEAT SEQUENCE	3 × 10 <sup>6</sup>	+0.5	20	GOOD

### 2. HYDROSTATIC TIGHTNESS TEST

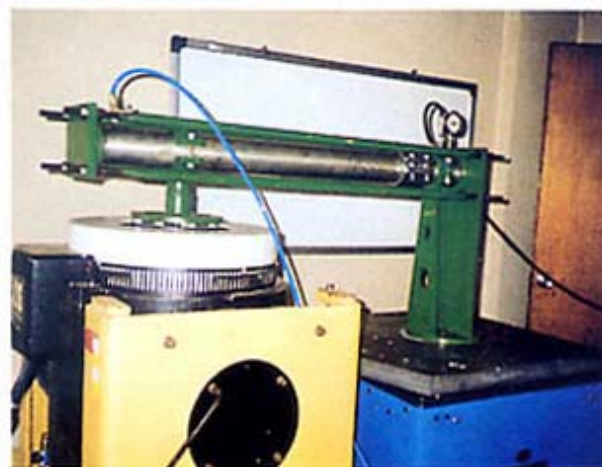
TIGHTNESS TEST DURING VIBRATION TEST	32kg/cm <sup>2</sup> (2 TIMES HIGHER THAN NORMAL WORKING PRESSURE)	RESULT : GOOD
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### 3. PNEUMATIC VACUUM TEST

VACUUM TEST DURING VIBRATION TEST	TEST PRESSURE FOR VACUUM : 100mbar	RESULT : GOOD
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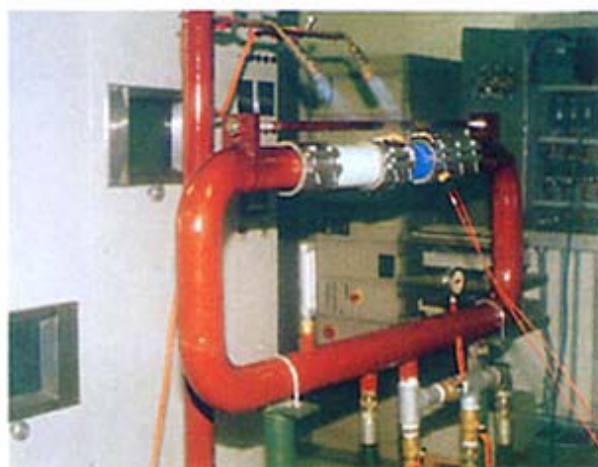
●TEST LABORATORY:KOREA INSTITUTE OF MACHINERY & MATERIALS

## SCENE OF PRESSURE, VIBRATION & VACUUM TEST



TEST CONTENT:(ABOVE 1, 2, 3 PERFORMED TOGETHER)

## SCENE OF FIRE TEST(FLEAME TEST)



TEST CONTENT:PERFORMED 30MIN BY G.L RULE AT 800°C 5.0kg/cm<sup>2</sup> CIRCULATION