II 2GD c T5(100℃)

KS Q ISO 9001 : 2009 / ISO 9001: 2008

MAX FIELD®

MAX DYNAMIC®

MAX FIELD®

Factory

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WOO JIN INDUSTRY CO.

"MAX DYNAMIC®" and "MAX FIELD®" spreading around the world

• Certification

Characteristics of the MAX FIELD® COUPLING

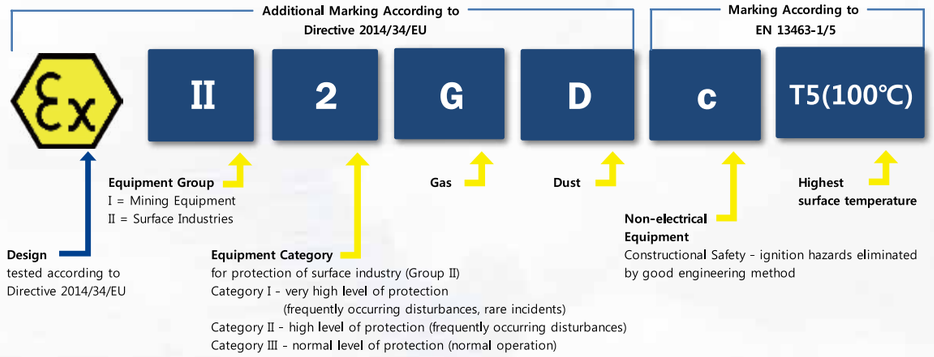
1. Designed for hot and humid environment and the material is superior than the standard coupling of MAX DYNAMIC®.
2. Torque ratings and torsional stiffness are higher than the standard coupling of MAX DYNAMIC®.
3. Facility protection for twirl, twist, impact, and abrasion.
4. Very simple replacement and maintenance without any oil or grease.
5. Very simple replacement without the separation of motor or connector on the related line due to its simple structure.
6. Possible for the dissimilar connection and assembly with the same hub.
7. Polyurethane based for good water and chemical resistance.
8. Highest flexible elasticity on run.
9. Less noise.

• Application

- AGITATORS
- BLOWERS
- COMPRESSORS
- CONVEYORS
- CRANES & HOISTS
- ELEVATORS
- FANS
- GENERATORS
- PUMPS
- BREWERY & DISTILLING
- FOOD INDUSTRY
- LUMBER INDUSTRY
- PULP & PAPER MILL
- RUBBER INDUSTRY
- STEEL INDUSTRY
- TEXTILE INDUSTRY
- AGGREGATE PROCESSING CEMENT

PROTECTING YOUR PROCESS

MARKING AND MEANING OF ATEX REGULATIONS



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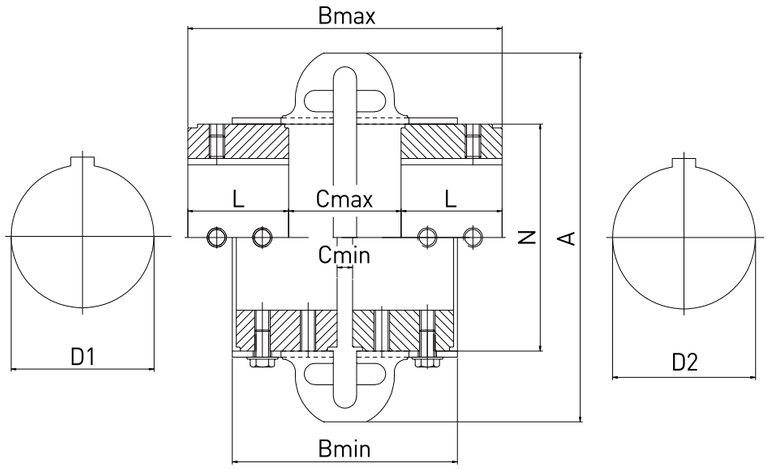
MAX FIELD®

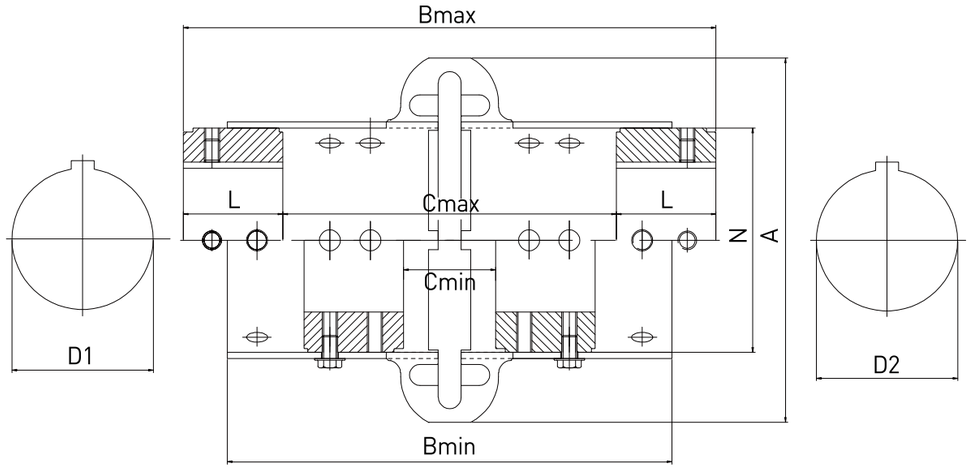
Standard Type



Dimensions in mm

MAX FIELD® coupling no.	Tn (Nm)	N Max. (rpm)	Bore		A	B		C		L	N	Weight
			D1	D2		min.	max.	min.	max.			kg
F-110	64	5,400	10	38	110	96	128	8	52	38	60	0.474
F-125	106	5,400	10	48	120	97	130	8	52	38	70	0.550
F-130	170	5,100	11	55	131	95	131	7	49	41	80	0.700
F-150	256	4,800	11	65	150	111	159	9	57	51	95	1.020
F-170	312	4,800	11	65	168	111	159	9	57	51	95	1.196
F-190	420	4,600	19	75	190	113	161	7	57	52	117	1.526
F-215	670	4,300	19	80	216	132	192	11	64	64	140	2.506
F-245	970	4,100	19	95	245	136	203	8	73	65	171	3.080
F-290	1,450	3,900	27	110	290	154	240	8	94	73	215	4.500
F-365	3,300	3,600	35	127	365	200	311	20	131	90	235	11.800
F-425	5,700	2,000	35	155	425	247	361	19	133	114	286	14.800
F-460	6,400	2,000	48	165	460	267	380	19	132	124	302	17.200

Spacer Type



Dimensions in mm

MAX FIELD® coupling no.	Tn (Nm)	N Max. (rpm)	Bore		A	B		C		L	N	Weight
			D1	D2		min.	max.	min.	max.			kg
FS-110	64	4,300	10	38	110	180	213	41	137	38	60	0.764
FS-125	106	4,300	10	48	120	187	220	52	144	38	70	0.920
FS-130	170	4,200	11	55	131	179	214	49	132	41	80	1.130
FS-150	256	4,000	11	65	150	232	276	57	174	51	95	1.760
FS-170	312	4,000	11	65	168	232	276	57	174	51	95	1.940
FS-190	420	3,900	19	75	190	232	278	57	174	52	117	2.500
FS-215	670	3,800	19	80	216	248	309	57	181	64	140	4.100
FS-245	970	3,700	19	95	245	256	323	66	193	65	171	5.180
FS-290	1,450	3,600	27	110	290	312	401	72	255	73	215	8.540
FS-365	3,300	2,600	35	127	365	318	428	76	250	90	235	15.440
FS-425	5,700	1,800	35	155	425	318	478	68	250	114	286	19.320
FS-460	6,400	1,800	48	165	460	318	498	67	250	124	302	22.080

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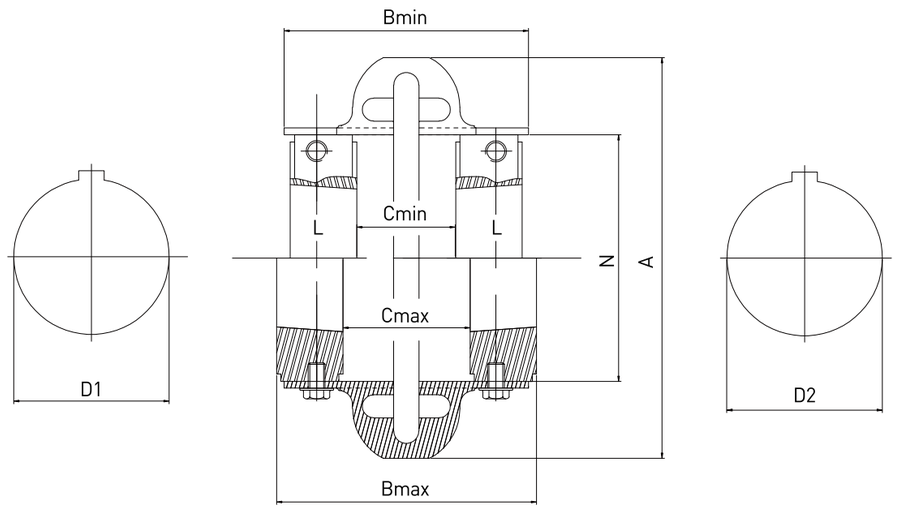
MAX FIELD®

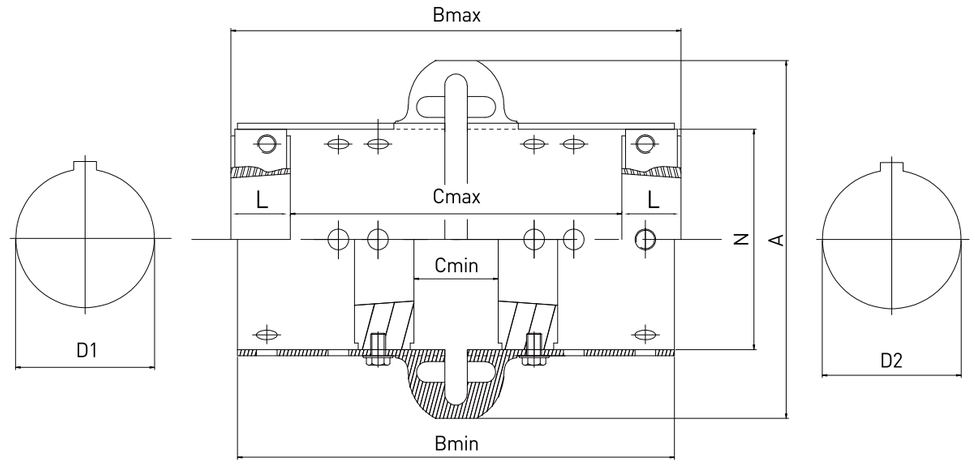
Taper-Lock Bushed Standard Type



Dimensions in mm

MAX FIELD® coupling no.	Tn (Nm)	N Max. (rpm)	A	B		C		Bore		N	L	Bush No.
				min.	max.	min.	max.	D1	D2			
F-110	64	5,400	110	96	96	42	50	10	38	60	22.3	1108
F-125	106	5,400	120	97	97	42	50	10	48	70	22.3	1108
F-130	170	5,100	131	98	108	36	56	11	55	80	25.4	1310
F-150	256	4,800	150	112	118	54	66	11	65	95	25.4	1610
F-170	312	4,800	168	112	118	54	66	11	65	95	25.4	1610
F-190	420	4,600	190	116	124	50	60	19	75	117	31.8	2012
F-215	670	4,300	216	134	157	45	68	19	80	140	44.5	2517
F-245	970	4,100	245	136	170	44	69	19	95	171	50.8	3020
F-290	1,450	3,900	290	152	188	40	87	27	110	215	50.8	3020
F-365	3,300	3,600	365	200	310	18	130	35	127	235	90.0	3535
F-425	5,700	2,000	425	247	335	44	132	35	155	286	101.6	4040
F-460	6,400	2,000	460	266	360	38	132	48	165	302	114.3	4545

Taper-Lock Bushed Spacer Type



Dimensions in mm

MAX FIELD® coupling no.	Tn (Nm)	N Max. (rpm)	A	B		C		Bore		N	L	Bush No.
				min.	max.	min.	max.	D1	D2			
FS-110	64	5,400	110	180	180	76	135	10	38	60	22.3	1108
FS-125	106	5,400	120	187	187	87	142	10	48	70	22.3	1108
FS-130	170	5,100	131	180	184	70	134	11	55	80	25.4	1310
FS-150	256	4,800	150	232	232	93	181	11	65	95	25.4	1610
FS-170	312	4,800	168	232	232	93	181	11	65	95	25.4	1610
FS-190	420	4,600	190	233	240	87	176	19	75	117	31.8	2012
FS-215	670	4,300	216	248	262	90	173	19	80	140	44.5	2517
FS-245	970	4,100	245	256	278	86	176	19	95	171	50.8	3020
FS-290	1,450	3,900	290	312	347	131	245	27	110	215	50.8	3020
FS-365	3,300	3,600	365	318	428	44	250	35	127	235	90.0	3535
FS-425	5,700	2,000	425	318	453	44	250	35	155	286	101.6	4040
FS-460	6,400	2,000	460	318	478	38	250	48	165	302	114.3	4545

MAX FIELD®

CE Ex
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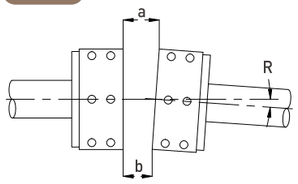
▪ Maximum Misalignment-mm/inch

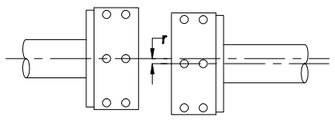
Coupling Size	110	125	130	150	170	190	215	245	290	365	425	460
△Ka max(mm)Angular	4.2 4°	4.9 4°	5.6 4°	6.6 4°	6.6 4°	6.1 3°	7.3 3°	9 3°	11.2 3°	8.2 2°	10 2°	9.5 1.8°
△Kr max(mm)Radial	1.6	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	3.2	3.2	3.2
△Ka max(in)Angular	0.165 4°	0.193 4°	0.22 4°	0.26 4°	0.026 4°	0.24 3°	0.287 3°	0.354 3°	0.441 3°	0.323 2°	0.394 2°	0.374 1.8°
△Kr max(in)Radial	0.063	0.063	0.063	0.063	0.063	0.095	0.095	0.095	0.095	0.126	0.126	0.126

STEP 1.



△Ka = (a-b)

STEP 2.



△Kr

STEP 3.

$$\frac{\Delta Ka}{\Delta Ka\ max} + \frac{\Delta Kr}{\Delta Kr\ max} = \leq 1$$

▪ Service(Safety) Factor for each running part

General Applications	Service Factor	Industrial Applications	Service Factor
AGITATORS	1.5-2.0	Aggregate Processing Cement	2.0-3.0
BLOWERS	1.0-1.5	Brewery & Distilling	1.0-2.0
COMPRESSORS	1.0-1.5	Food Industry	1.0-2.0
CONVEYERS	1.5-3.0	Lumber Industry	1.5-2.0
CRANES & HOISTS	2.0-2.5	Power Industry	1.5-2.5
ELEVATORS	2.0-2.5	Pulp & Paper Mills	1.0-2.5
FANS	1.0-2.0	Rubber Industry	1.0-3.0
GENERATORS	1.0-3.0	Steel Industry	2.0-3.0
PUMPS	1.0-2.0	Textile Industry	1.0-2.0

▪ How to choose appropriate couplings

1. How to choose Type:
Coupling type depends on the application and the operating conditions.
Please see the table on page 8 and then choose the most suitable couplings.
(Notice: Positive engagement for lifting motion only)

2. How to calculate the nominal torque Ta(Nm) of the driven machine.
Ta = 9550 x kw/n
(kW=driven machine, n=speed(min-1))

3. How to determine the service factor(Sf)
Please see the table in each catalogue.
Please check whether below.
- if the driven machine is an internal combustion engine that has over 20% of the torque fluctuation, read page 10.
- if the driving speed is nearly critical speed, please ask the person in charge.
- if the ambient temperature is over 60 degrees Celsius, please ask the person in charge.
- if the number of starts per hour is over 10 hours, please ask the person in charge.

4. How to calculate the equivalent torque Teq(Nm)
Teq = Ta x (Sf + St)
Ta = torque(Nm) of the driven machine
(Ta = torque(Nm) of the driven machine, Sf = service factor, St= Temperature service factor (see no. 8 below))

5. Be the nominal torque of the coupling(TN) bigger than Teq
Please check dimensional drawings

6. Be the maximum peak torque(Tmax) less than 2 x TN

7. How to check the bores
If the diameters of the shaft are known, please check coincident bores are available if possible.
When the couplings need bore and keyway, please be advised the precise dimensions and tolerances.

8. Temperature Service Factor

Ambient Temperature	Service Factor St*
50°< T° 66°	0,25
66°< T° 74°	0,5
74°< T° 82°	0,75
82°< T° 93°	1

* For relative humidity < 50% for humidity relative > 50% ask us

In common, the service factor adjustment for high temperature is in addition to the service factor consideration for the driver and driven equipment. However, if high temperatures are typical for a specific application, maximum temperature consideration is incorporated into the "typical" service factor (e.g steel mill tables conveyors).

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■ Service Factors chart

Load Conditions	Service Factors
Continuous driving Loads vary only slightly	1
Applied torque varies during operation	1.5
Applied torque varies during operation, 'stop' and 'go' cycles are encountered often.	2
Small shock and radical torque variations are applied.	2.5
Heavy shock or normal reversing drives are loaded	3
Reversing torque load doesn't always imply reversal of rotation	ask person in charge

■ Alignment

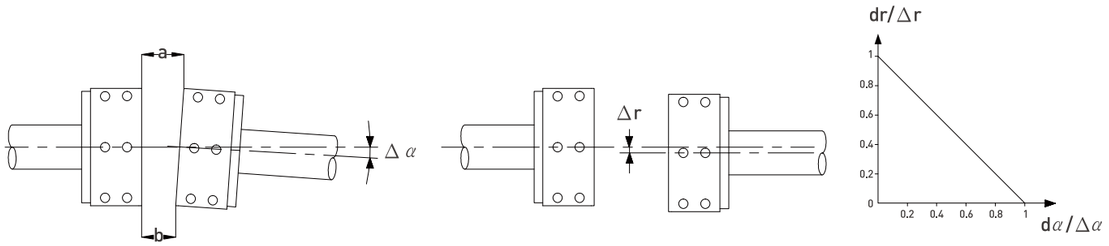
Measure each misalignment value and calculate the ratio of this value by using the maximum indicated value.
The sum of these ratios must be less than 1:

$dr/\Delta r + dr/\Delta\alpha < 1$

- dr = measured radial misalignment value
- Δr = max. radial misalignment value
- $d\alpha$ = measured angular misalignment value
- $\Delta\alpha$ = max. angular misalignment value

Correct alignment if this sum is greater than1.

Size	F-110	F-125	F-130	F-150	F-170	F-190	F-215	F-245	F-290	F-365	F-425	F-460
(a-b)mm	4.2	4.9	5.6	6.6	6.6	6.1	7.3	9	11.2	8.2	10	9.5
Δr	1.6	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	3.2	3.2	3.2



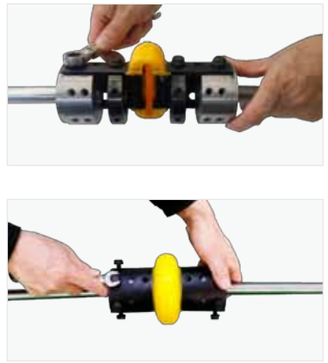
■ Step to install

STEP 1.

- Inspect both shafts (driven & driving) and hub bores and confirm they are clean and no dirty particle or burrs.
- Be sure they keys fit shafts properly.
- Mount both hubs to the shafts securing only one hub while the other side hub should be loose for minor adjustment of spacing.
- In case tapered being used, follow bushing manufacturer's instructions.
- If hub is bored for an interference fit, we recommend heating the hub in water, oil bath or an oven and after heating, immediately positioning it on the shaft.
- Be careful spot heat may cause distortion.

STEP 2.

- Place half of the element around hubs and secure with capscrews provided.
- The element will space the other hub. It is important to have capscrew properly tightened.
- For placing proper capscrew, see the recommended capscrew torques for proper installation below.
- Now secure the other hub to the shaft.

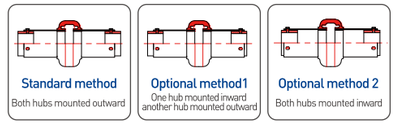


STEP 3.

- Mount other half of the element to hubs.
- Tighten all capscrews to the recommended capscrew torques for proper installation below.

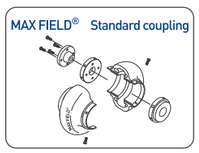
- Aboves shown spacer type coupling installation; the same procedure applies for the standard type coupling.

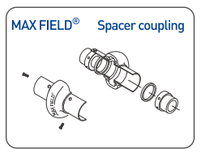
- Helpful tip!
If the capscrew holes in the element do not line up with the hubs properly due to equipment misalignment, please rotate the shafts as you can install each capscrew. For lager couplings, first install the capscrew that is positioned in the center of the half element.



■ Recommended capscrew torques for proper installation

Coupling Size	Bolt Size	Torque	
		Nm	in lb
F-110	M8	27	240
F-125	M8	27	240
F-130	M8	27	240
F-150	M10	53	468
F-170	M10	53	468
F-190	M10	53	468
F-215	M10	53	468
F-245	M10	53	468
F-290	M12	92	816
F-365	M14	158	1,404
F-425	M14	158	1,404
F-460	M14	158	1,404





Note

1. A bolt having the highest tension should be used.
2. Locktitle as an adhesive should be used.
3. A bolt should never be used twice.
4. Never treat a bolt with oil.