



Contactless torque transmission

Magnetic Gear & Coupling



www.ccmagnetics.com

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1. About CCmagnetics



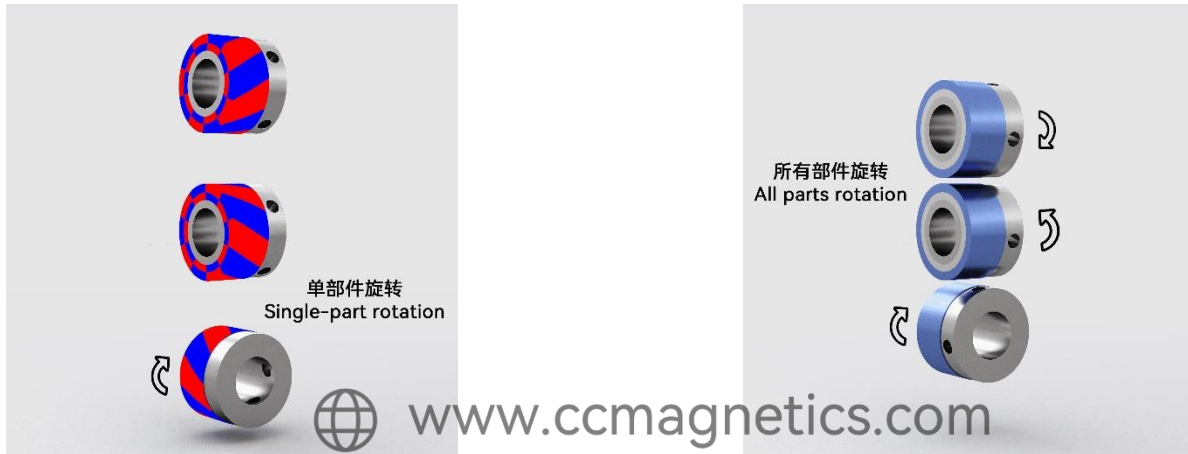
CCmagnetics is a website owned by Beijing Ciyunda Technology Co., Ltd. Beijing Ciyunda Technology Co., Ltd. was established in July 2010.

Our company is a well-known bonded NdFeB manufacturer worldwide and its major business consists of bonded magnets, hot-pressed magnets, and Magnet transmission assembly, which are mainly sold to developed countries and areas, such as Japan, Korea, America, Europe and Taiwan, etc.

Main Products of CCmagnetics magnets:

1. Bonded NdFeB magnets & related assemblies;
2. Hot-pressed magnets & related assemblies;
3. Sintered magnets& related assemblies;
4. Magnet transmission assembly (magnetic gear & coupling);
5. Multistage ring magnets for magnetic encoders.

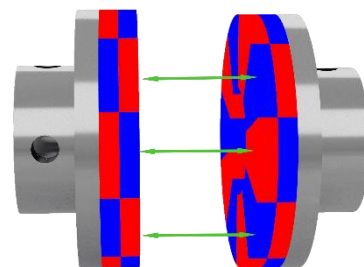
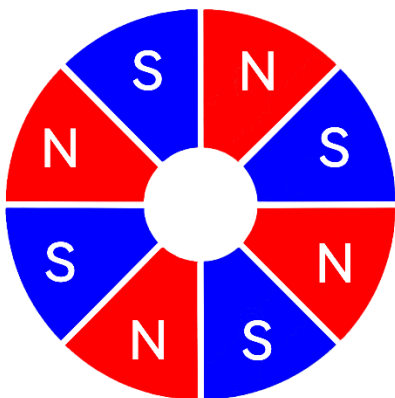
2. What are magnetic gear & couplings?



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Magnetic gear & coupling are noncontact power transmission devices by magnetic attraction-repulsion force.

Magnetic gears can replace mechanical gears that rely on friction to drive.



Since Wear-out dust-free, partition wall transmission is possible, noise-free, and oil-free, it's widely used in pharmaceutical production lines, LCD panel transmission, clean rooms, food machinery applications, and non-contact stirring pumps. etc.

3. Advantages of magnetic gear

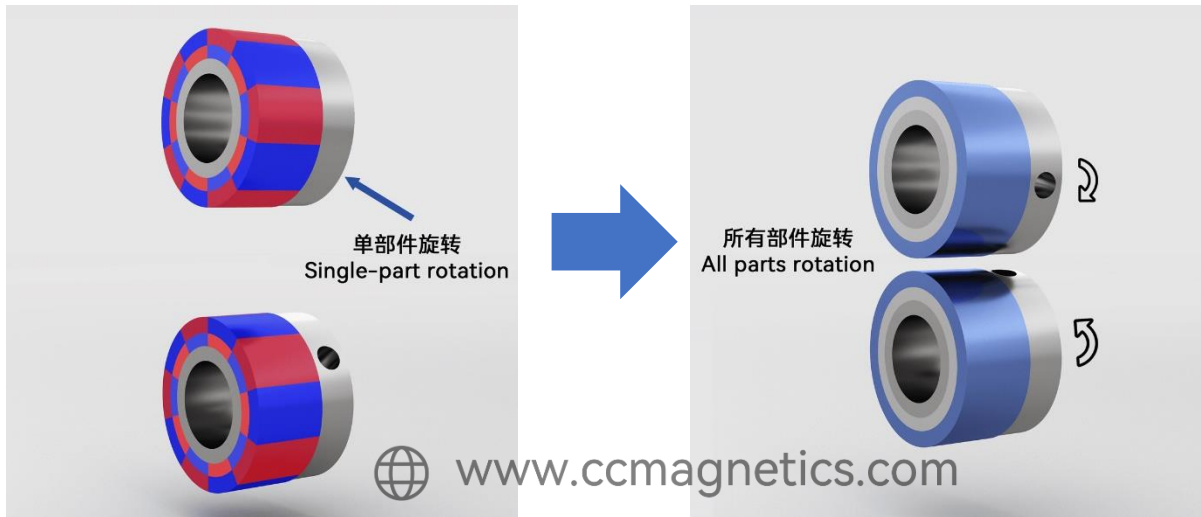
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 Noise & vibration free	 Wear-out dust free	 Power transmission through wall	 Torque limiter function
 Heat generation free	 No greasing needed	 Easy mount & dismount	 Large pemmissive misalignment (pararel angular)

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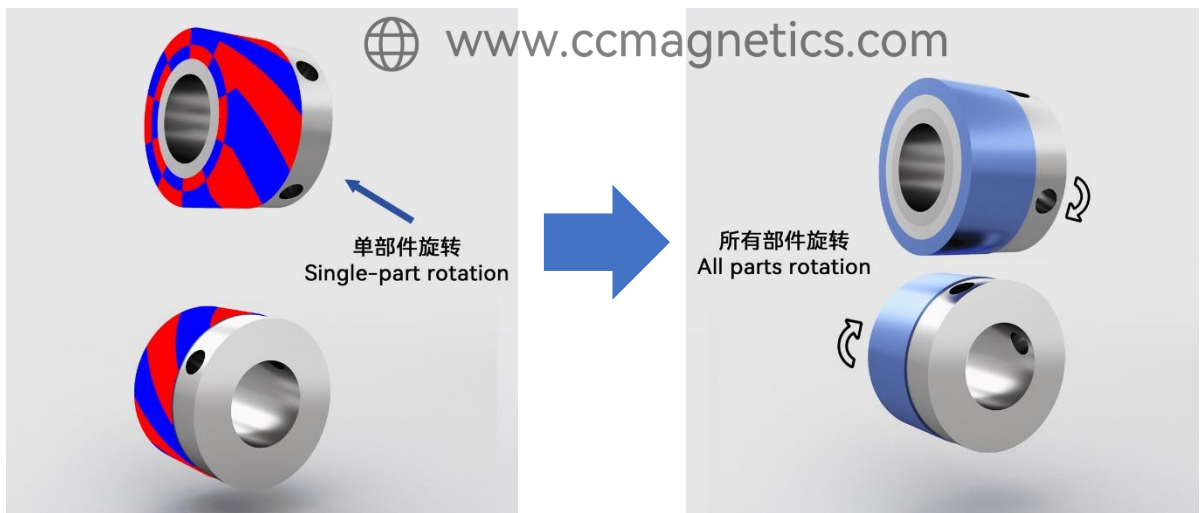
4. Gear transmission mode

1. Parallel transmission magnetic gears (spur gear, helical gear)

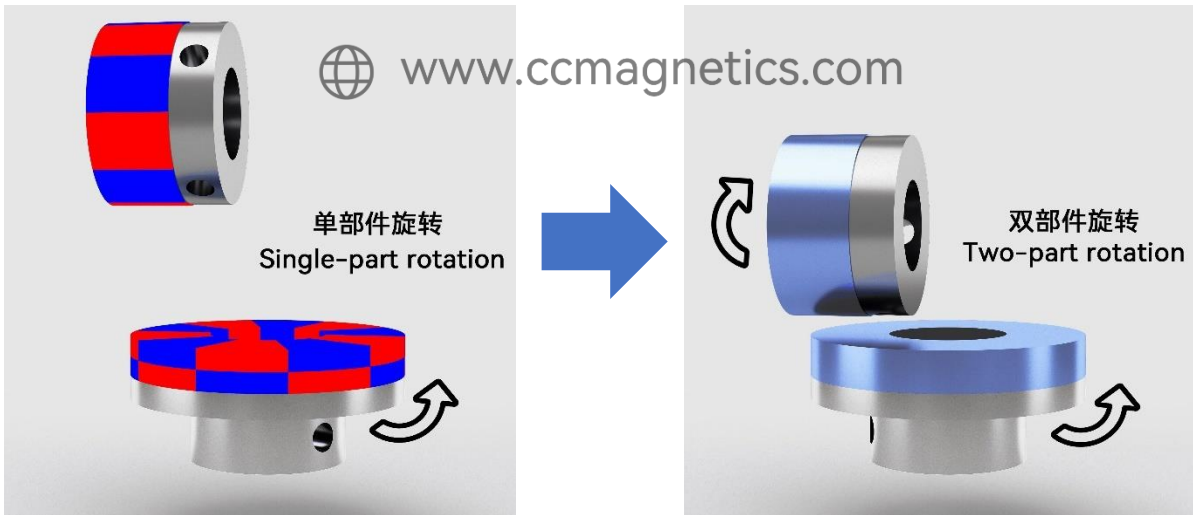


Optional MGS, CM-AE, CM-PE series magnetic gear.

2. Right-angle transmission gears (bevel gear, miter gear)

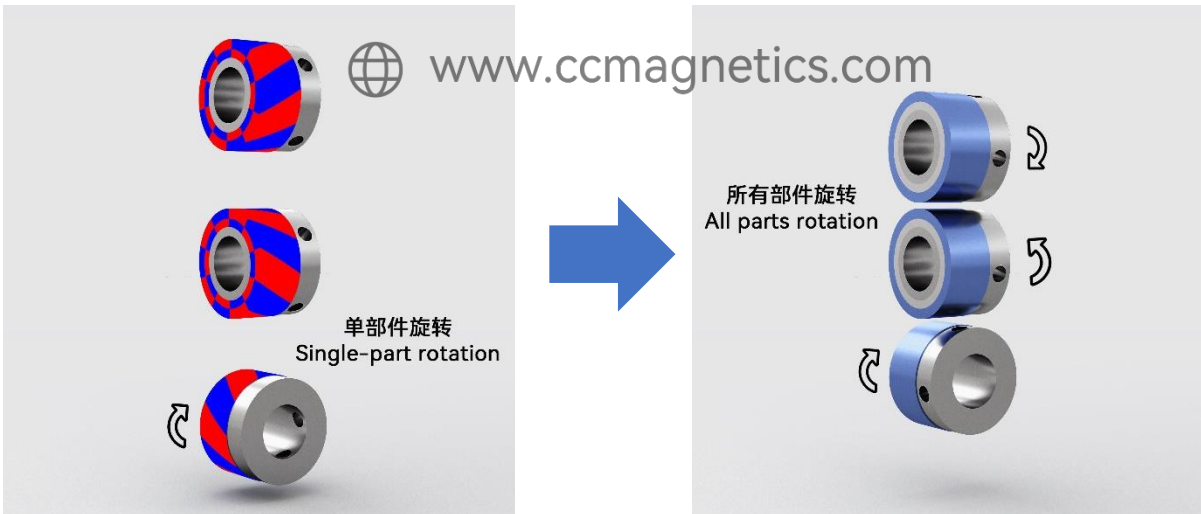


Optional MGS, CM-AE, CM-PE series magnetic gear.



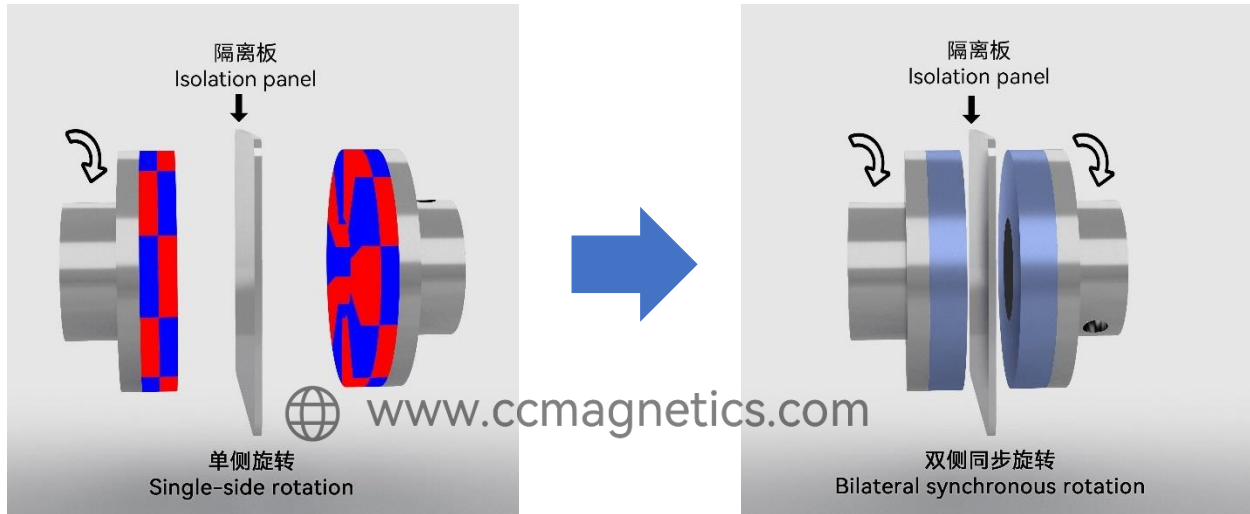
Optional MD series magnetic gear.

3. Hybrid transmission magnetic gears



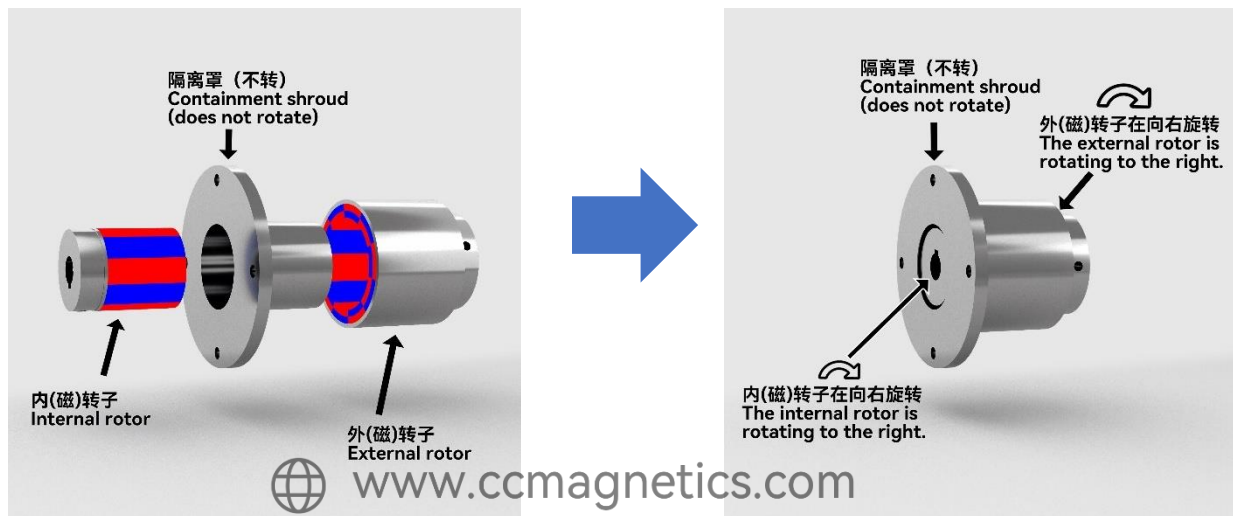
Optional MGS, CM-AE, CM-PE series [magnetic gear](#).

4. Shaft connection transmission couplings (disk coupling, shaft coupling)



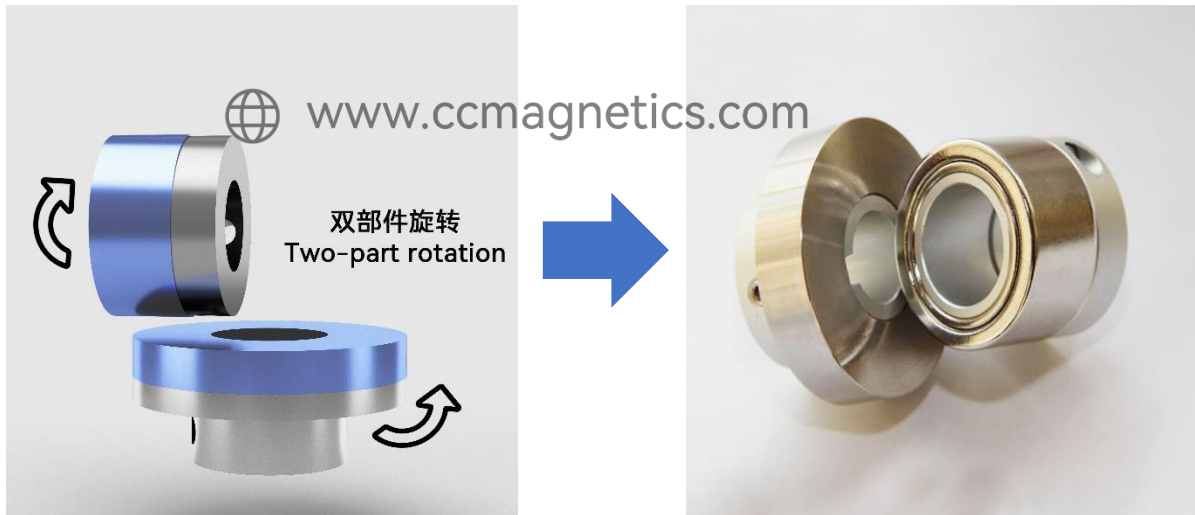
Optional CDS series magnetic gear.

5. Internal and external transmission (Magnetic couplings)



Optional CI series magnetic gear.

6. How to choose magnetic gear and couplings?



1. Select the transmission direction of the magnetic gear;
2. Select the model of magnetic gear;
3. Calculate the required number of magnetic gears and couplers;
- 4, calculate the magnetic gear and coupling load torque;
5. Select the shape and size according to the load torque required by each magnetic gear;  www.ccmagnetics.com
6. Select the size of the inner diameter magnetic gear according to the shaft of the fixed magnetic gear;
7. If the customer needs special magnetic gear or coupler, the order needs to describe the special use requirements, such as whether the magnetic gear or coupler needs acid and alkali resistance, high-temperature resistance, and other requirements.

7. Handling precautions

- Be very careful when handling magnets because the magnet is fragile and broken pieces stick to the magnetic material due to strong magnetic forces.
- The impact on magnets will decrease the magnetic force.
- In case of breakage of the magnet, corrosion progresses from the surface to become demagnetization.
- Products should be used by preparing protection against dust such as iron scrap.
- Never bring a magnet close to the person with an electric medical device such as a pacemaker.
- Never bring a magnet near the magnetic tape, disk, card, and so on. There is a possibility that data in a magnetic storage medium will be destroyed or corrupted.

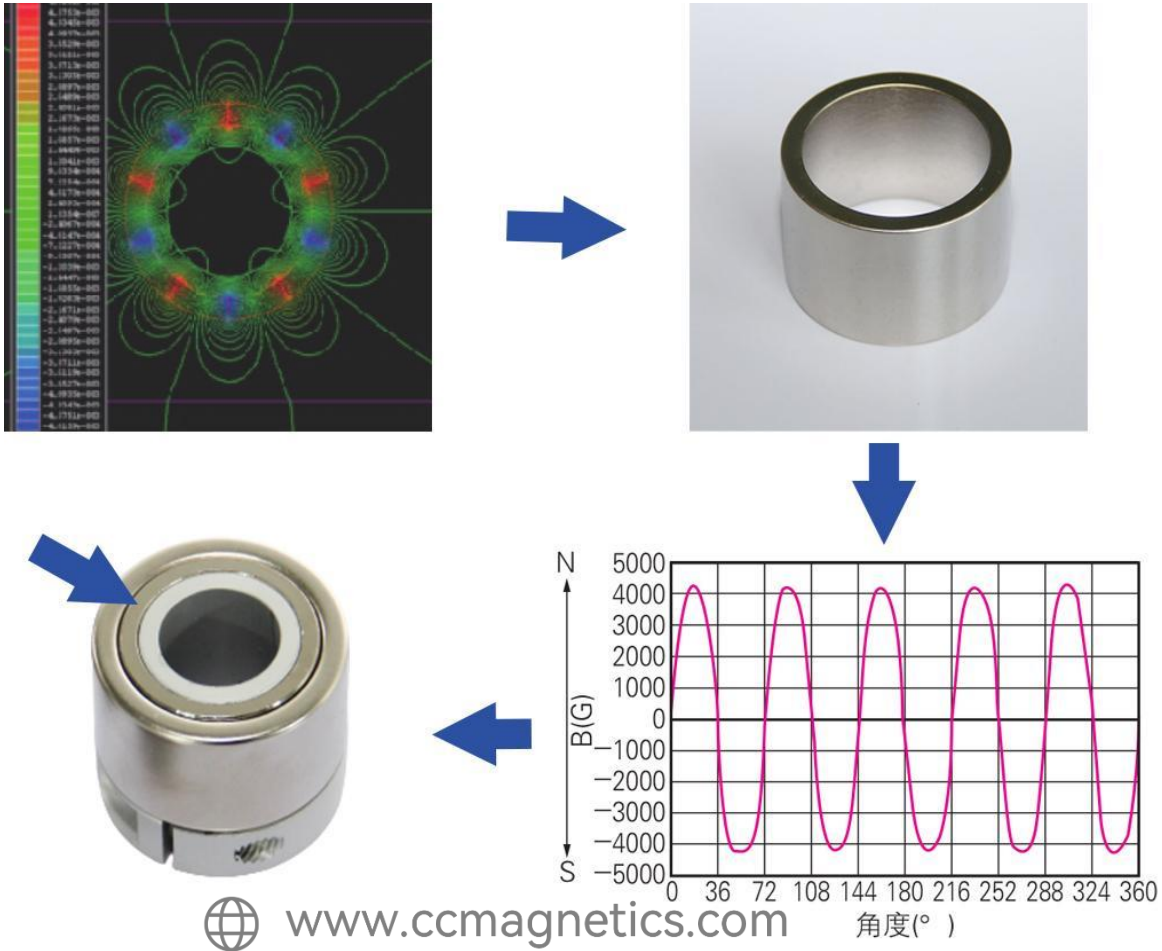


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Moreover placing a magnet near precision electronic devices such as personal computers, cathode-ray tubes, and electronic watches may cause problems.

- our product itself does not have any patent-related problems. However, you should be careful about the application patents, which we don't know, depending on the usage or applications.

8. Magnetic gear design advantages



We added a magnetic isolation steel ring inside the magnetic ring to enhance the magnetic force outside the magnetic ring and increase the torque by 20% compared to similar products.

9. Example solutions

LCD panel transfer device



- **Dust-free transmission device**

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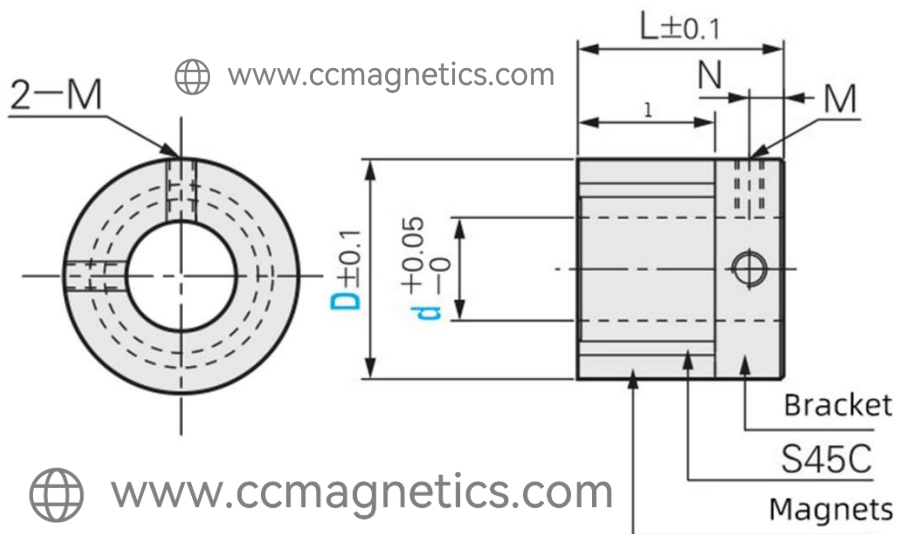


10. Product parameters

- **MGs Series --- (Aluminum bracket magnetic gear)**



MGs-A series



Name of parts	(M) Material	(S) Surface Treatment
Bracket	AL6061	Anodic oxidation treatment
Magnet	NdFeB sintered	Nickel-plated

Model	(D) Outer diameter	Pole Qty	(d) Inner diameter	Brackets material A=A6061 S=SUS304	Iron ring C=Enhanced X=Normal	Torque (interval:1mm)	L	I	N	M
MGS	16	12P	5,6,8	A/S	C/X	0.015N.m	13	8	2.5	M3
MGS	16	8P	5,6,8	A/S	C/X	0.025N.m	13	8	2.5	M3
MGS	18	08P	6,8,	A/S	C/X	0.05N.m	15	10	2.5	M3
MGS	21	06P	6,8,10,12	A/S	C/X	0.13N.m	21	15	3	M3
MGS	21	08P	6,8,10,12	A/S	C/X	0.11N.m	21	15	3	M3
MGS	26	08P	8,10,12,15	A/S	C/X	0.2N.m	21	14	3.5	M4
MGS	26	10P	8,10,12,15	A/S	C/X	0.16N.m	21	14	3.5	M4
MGS	26	20P	8,10,12,15	A/S	C/X	0.05N.m	21	14	3.5	M4
MGS	30	10P	10,12,15	A/S	C/X	0.28N.m	25	18	3.5	M4
MGS	30	8P	10,12,15	A/S	C/X	0.31N.m	25	18	3.5	M4
MGS	32	8P	8,10,12,15,20	A/S	C/X	0.4N.m	30	20	5	M4
MGS	32	10P	8,10,12,15,20	A/S	C/X	0.32N.m	30	20	5	M4
MGS	32	12P	8,10,12,15,20	A/S	C/X	0.28N.m	30	20	5	M4
MGS	32	20P	8,10,12,15,20	A/S	C/X	0.09N.m	30	20	5	M4
MGS	35	08P	8,10,12,15,20	A/S	C/X	0.55N.m	32	21.5	5.25	M5
MGS	35	10P	8,10,12,15,20	A/S	C/X	0.45N.m	32	21.5	5.25	M5
MGS	35	12P	8,10,12,15,20	A/S	C/X	0.36N.m	32	21.5	5.25	M5
MGS	35	18P	8,10,12,15,20	A/S	C/X	0.25N.m	32	21.5	5.25	M5
MGS	39	08P	15,17,20	A/S	C/X	0.8N.m	35.8	26.6	4.6	M5
MGS	39	12P	15,17,20	A/S	C/X	0.48N.m	35.8	26.6	4.6	M5
MGS	39	16P	15,17,20	A/S	C/X	0.4N.m	35.8	26.6	4.6	M5
MGS	42	12P	15,20,25	A/S	C/X	0.74N.m	30	21	4.5	M5
MGS	42	18P	15,20,25	A/S	C/X	0.42N.m	30	21	4.5	M5
MGS	45	10P	15,20,25,30	A/S	C/X	1.2N.m	35	25	5	M5
MGS	45	12P	15,20,25,30	A/S	C/X	0.95N.m	35	25	5	M5

About the operating temperature of the MGS-A model.

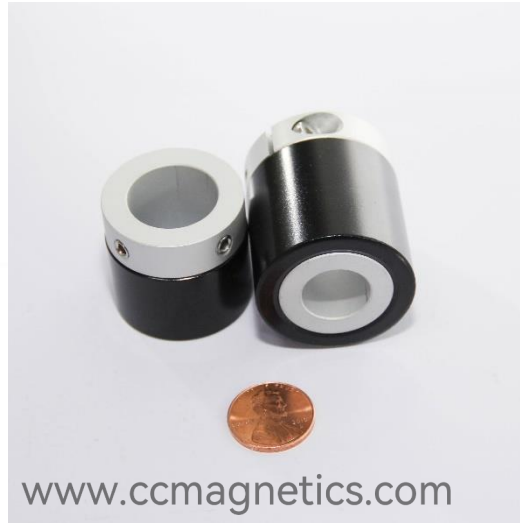
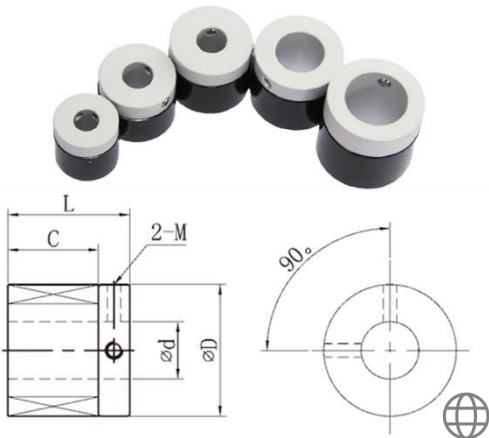


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The usual use temperature is 0-80 degrees, but we can customize it to apply to 150 degrees, we support the replacement of bracket material and fixation mode.

CM-AE Series --- (Epoxy coating: high-temperature resistance, anti-corrosion.)

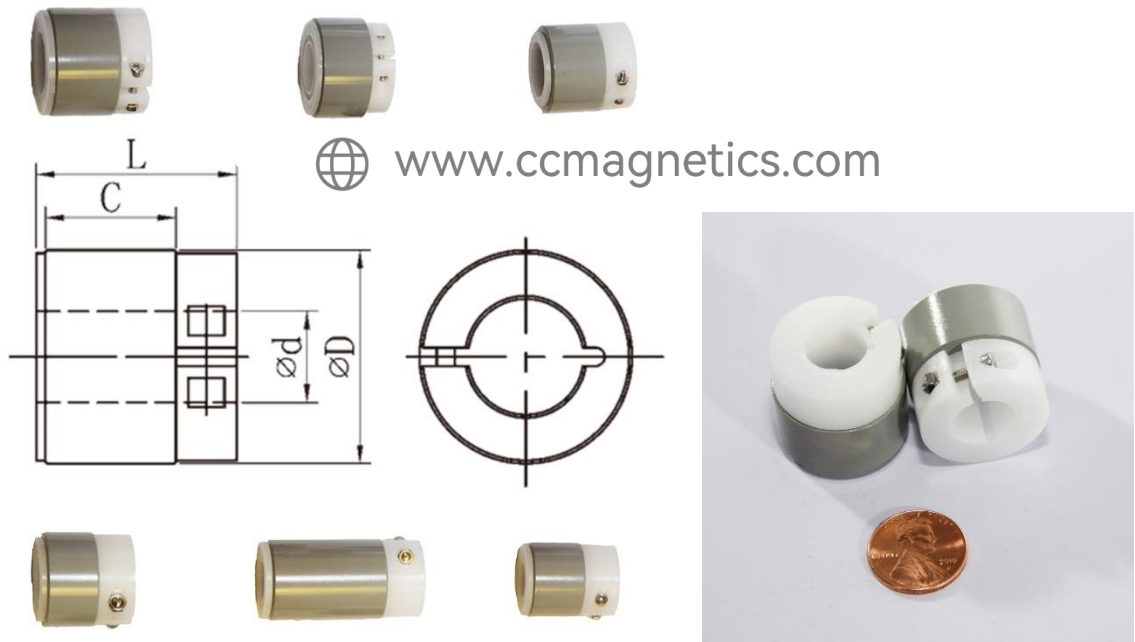
CM-AE series



Model	(D) Outer diameter	Pole Qty	(d) Inner diameter	C	L	M	Torque (interval:1mm)
CM4212P-□AE	42	12P	10,15,20	21	29	M5	0.3N.m
CM3508P-□AE	35	8P	10,12,15,20	21.5	30	M5	0.27N.m
CM3510P-□AE	35	10P	10,12,15,20	21.5	30	M5	0.23N.m
CM3510P-□AE	35	12P	10,12,15,20	21.5	30	M5	0.20N.m
CM3208P-□AE	32	8P	10,12,15,20	20	28	M4	0.2N.m
CM3210P-□AE	32	10P	10,12,15,20	20	28	M4	0.16N.m
CM3008P-□AE	30	8P	10,12,15,16	18	25	M4	0.18N.m
CM3010P-□AE	30	10P	10,12,15,16	18	25	M4	0.15N.m
CM2808P-□AE	28	8P	10,12,15	22	28	M3	0.15N.m
CM2608P-□AE	26	8P	8,10,12,15	14	21	M4	0.12N.m
CM2610P-□AE	26	10P	8,10,12,15	14	21	M4	0.1N.m
CM2106P-□AE	21	6P	8,10,12	15	21	M4	0.11N.m
CM2108P-□AE	21	8P	8,10,12	15	21	M4	0.07N.m
CM2106PL-□AE	21	6P	8,10,12	30	36	M4	0.14N.m
CM1608P-□AE	16	8P	8、6	8	13	M2.5	0.04N.m

● **CM-PE Series --- (POM bracket magnetic gear)**

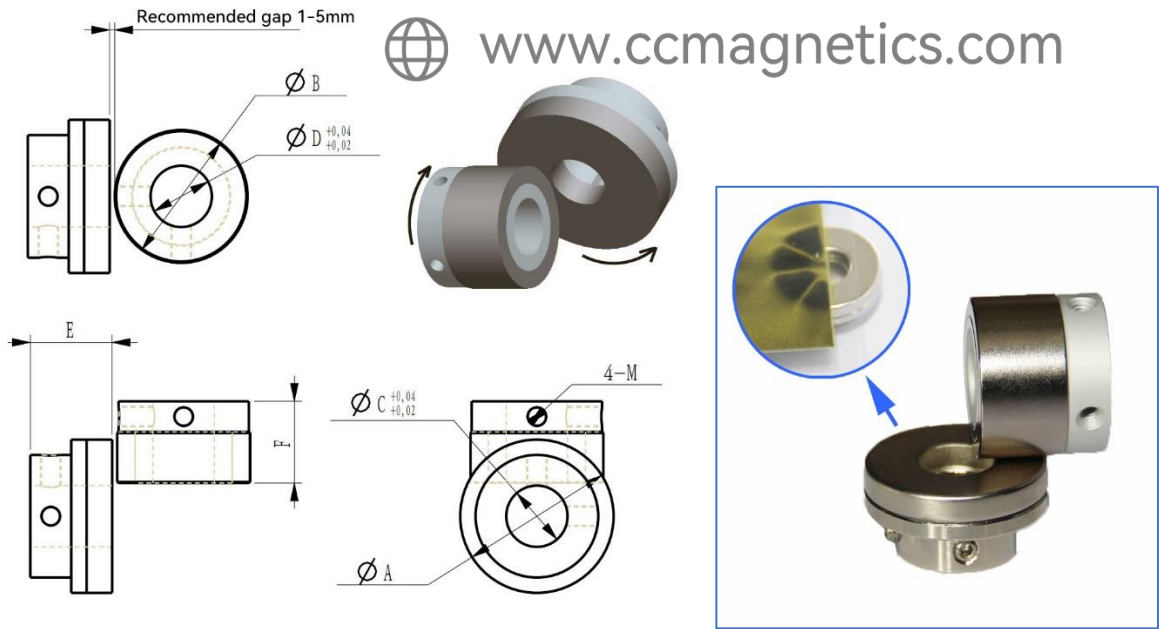
CM-PE series



Model	(D) Outer diameter	Pole Qty	(d) Inner diameter	C	L	Torque (interval:1mm)
CM4212P-□PE	42	12P	10,12,15 20 25	21	32.5	0.3N.m
CM3508P-□PE	35	8P	10,12,15,20	21.5	33	0.27N.m
CM3510P-□PE	35	10P	10,12,15,20	21.5	33	0.23N.m
CM3512P-□PE	35	12P	10,12,15,20	21.5	33	0.20N.m
CM3208P-□PE	32	8P	20 15 10	20	32.5	0.2N.m
CM3210P-□PE	32	10P	20 15 10	20	32.5	0.16N.m
CM2608P-□PE	26	8P	8,10,12,15	14	26	0.12N.m
CM2610P-□PE	26	10P	8,10,12,15	14	26	0.1N.m
CM2106P-□PE	21	6P	10	15	26.5	0.11N.m
CM2108P-□PE	21	8P	10	15	26.5	0.07N.m
CM2106PL-□PE	21	6P	10	30	41.5	0.15N.m

● MD Series --- (Magnetic bevel gear)

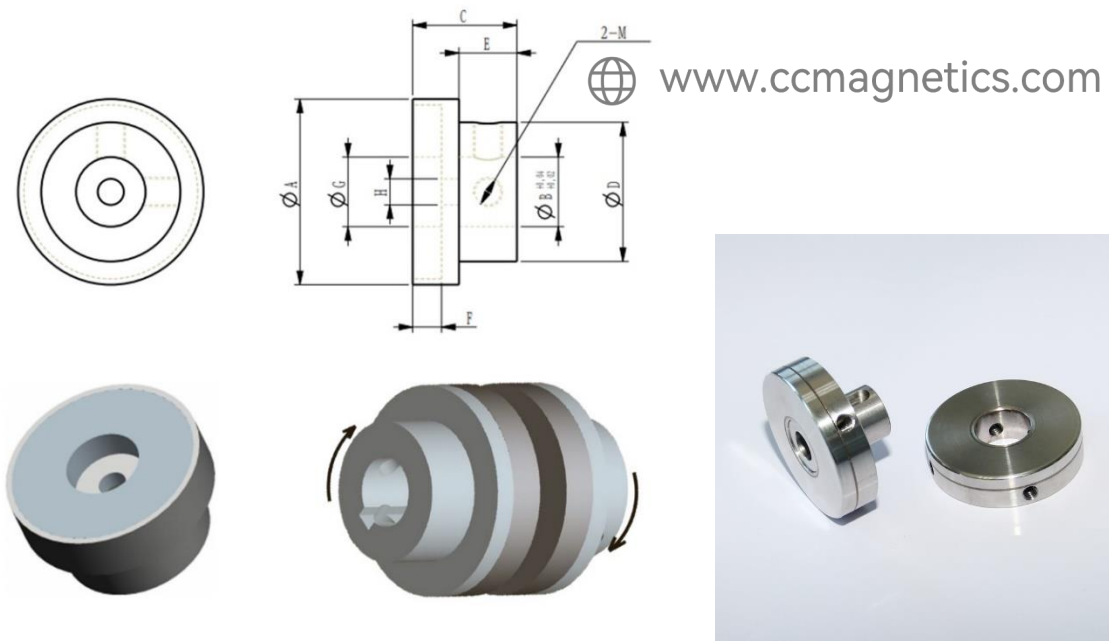
MD series



Model	A	B	C	D	E	F	Drive ratio	Torque (interval:1mm)	Torque (interval:5mm)
MD3026	30	26	8,10,12,15	8,10,12,15	16	21	1:1	0.45N.m	0.04N.m
MD3530	35	30	8,10,12,15	10,12,15,16	16	20	5:4	0.7N.m	0.06N.m
MD4735	47	35	12,15,20	10,12,15,20	21	25	1:1	1.3N.m	0.18N.m
MD6045	60	45	15,20,25	15,20,25	25	30	1:1	2.5N.m	0.34N.m
MD6545	65	45	15,18,20,25	15,20,25	24	30	1:1	3.9N.m	0.8N.m
MD7552	75	52	18,20,25	15,20,25,30	27	33	1:1	5.6N.m	1.1N.m

- **CDS Series --- (Magnetic disk couplings & magnetic shaft couplings)**

CDS series



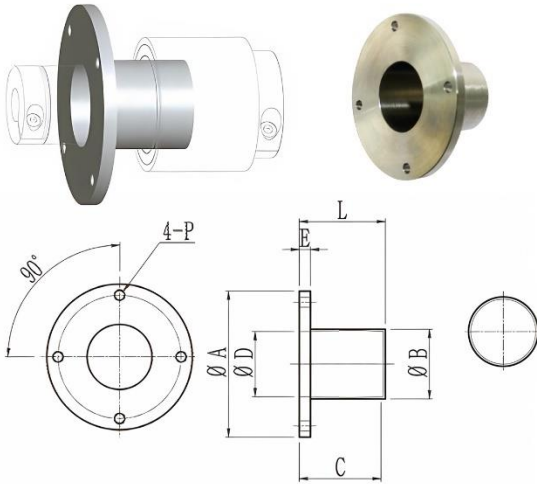
Model	(A) Outer diameter	(B) Inner diameter	(C) Height	D	E	F	G	H	M	Torque (interval: 1mm)	Torque (interval: 5mm)
CDS12-B	12	4,5,6	16	12	--	--	--	--	M3	0.05N.m	--
CDS24-B	24	6,8,10	18	18	10	5	6	3.2	M4	0.42N.m	0.04N.m
CDS28-B	28	6,8,10	18	20	10	5	10	4.2	M4	0.75N.m	0.12N.m
CDS32-B	32	8,10,12	18	24	10	5	12	4.2	M5	1.95N.m	0.32N.m
CDS38-B	38	8,10,12,15	18	28	10	5	15	5.2	M5	2.98N.m	0.82N.m
CDS43-B	43	12,15,20	20	30	12	5	15	5.2	M5	3.8N.m	1.2N.m
CDS50-B	50	12,15,20	22	34	13	6	20	5.5	M5	4.2N.m	1.5N.m
CDS63-B	63	15,18,20,25	25	36	15	6	26	5.5	M5	11N.m	4.5N.m
CDS68-B	68	15,18,20,25	30	40	18	8	30	6.2	M5	16.2N.m	7.8N.m

CDS78-B	78	18,20,25,30	32	42	18	10	33	6.2	M5	18.5N.m	10N.m
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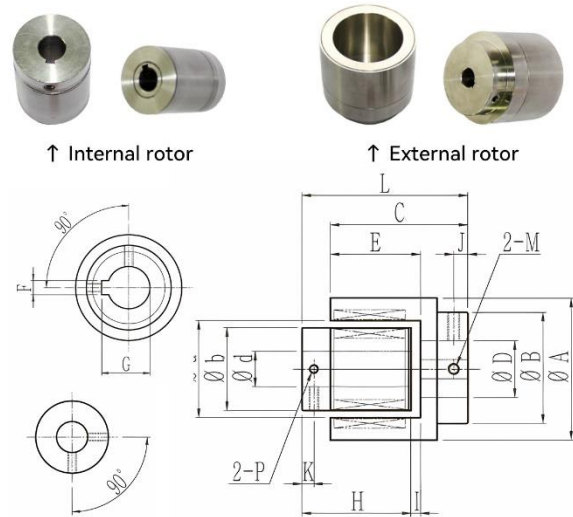
● **CI Series --- (Internal and external transmission)**

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CI series (Containment shroud)



CI series (Internal rotor & External rotor)



Internal rotor and external rotor ↓  www.ccmagnetics.com

PN	ΦA	ΦB	C	ΦD	Φa	Φb	Φd	E	F	G	H	I	J	K	L	M	P	Torque
CI045	45	38	50	19	33	27	12	32	6	21.8	38	4	5	4	60	M4	M3	2N.m
CI060	60	47	58	24	43	35	15	38	8	27.3	46	4	6	5	70	M5	M4	5.4N.m
CI080	80	58	65	28	58	48	20	40	8	31.3	49.5	5.5	7	6	80	M6	M5	11.5N.m
CI100	100	70	100	35	72	58	25	72	10	38.3	83	6	8.5	7	117	M8	M6	43.8N.m
CI120	120	70	105	35	86	70	30	72	10	38.3	86	6	8.5	7	125	M8	M8	84N.m

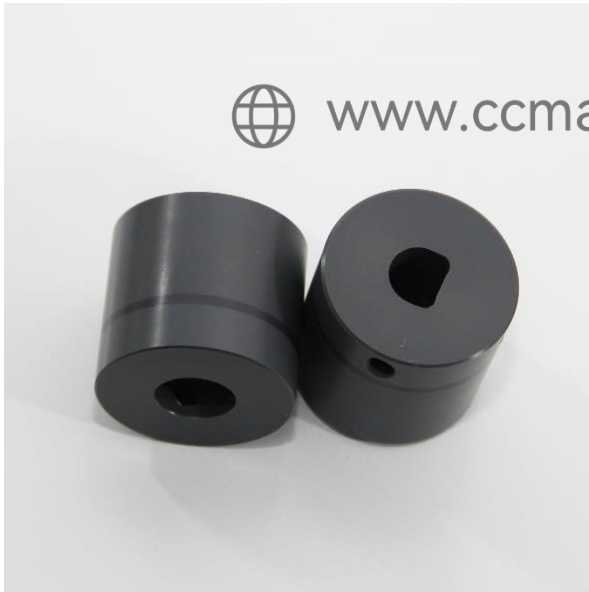
Containment shroud ↓  www.ccmagnetics.com

PN	ΦA	ΦB	C	ΦD	E	L	P
With CI045	65	31	37.5	29	5	38.5	Φ4.5/P.C.D 55
With CI060	90	40	46.5	38	6	47.5	Φ5.5/P.C.D 77
With CI080	115	55	49	51	8	51	Φ6.6/P.C.D 99

With CI100	142	68	84	62	10	84	Φ8.6/P.C.D 122
With CI120	165	82	86	74	10	88	Φ8.6/P.C.D 145

- **Special customized magnetic gear**

We can manufacture magnetic gears & couplers with different functions according to your requirements, high-temperature resistance, anti-oxidation, anti-corrosion, various shapes of mounting shafts, etc.



Anti-corrosion magnetic gear



Stainless steel magnetic gear



Magnetic reinforced magnetic gear


Fully sealed magnetic gear

UPE conveyor idlers (Magnetic transmission accessories)



The UPE conveyor idlers are an important component in the transmission of glass panels. The conveyor shaft drives the roller to rotate and transport the glass panel forward. The rollers vary according to customer needs.

Available in a variety of materials and fixed styles.

Material	Mechanical&features
White UPE (polyethylene)	1. The operating temperature of the item is below 50 degrees. 2. The item is acid and alkali resistant. 3. item is mostly used for conveying equipment in a normal temperature environment.
Black anti-static UPE (anti-static polymer polyethylene)	
Black conductive UPE (conductive polymer polyethylene)	
Ordinary PEEK (polyether ketone)	1. The working temperature of the item can reach 200 degrees. 3. The item has acid and alkali resistance. 4. The item material has high hardness and the surface is not easy to scratch.
Conductive PEEK (Conductive Polyether Ketone)	
Customized products: metal rollers, rubber-coated rollers, O-shaped Circle roller etc.	Generally, these items are used in high-temperature barbecue equipment or heavy glass conveying equipment.  www.ccmagnetics.com

11. Product Q&A

1. Does magnetic gear & and coupling demagnetize?

It demagnetizes 0.1% or less per year.

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2. Is there any influence by the magnetic flux leakage?

50mm should be far enough to avoid any influence.

3. What is the upper-temperature limit?

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It is 80°C or less for the standard type and 150°C or less for the heat-resistant type.

4. Are there any points of attention for assembling?

- (1) Please fix magnetic products onto the shaft after placing the non-magnetic spacer, which has high stiffness and a high sliding nature.
- (2) If both hubs stick to each other, you can remove those by radial force in case of small size. Please contact us before you try to remove those by brute force.
*Please pay enough attention to injury if you try it by yourself.
(Not recommended)
- (3) The Magnetic force of the product is strong, please pay more attention as it may cause some damage to precision items that the worker holds in his hand.

5. Does the torque change according to the gap between both hubs at assembling? www.ccmagnetics.com

6. What kind of materials can be used for the partitions?

Non-magnetic substances such as stainless steel can be used.

7. What are the points to be considered when assembling?

Place a hard and slidable spacer between magnets before fixing the products on a shaft.

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8. How long does delivery take?

It takes roughly two weeks for the standard stock items. If custom magnetic gear & and couplings take about a month.

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12. Touch us

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