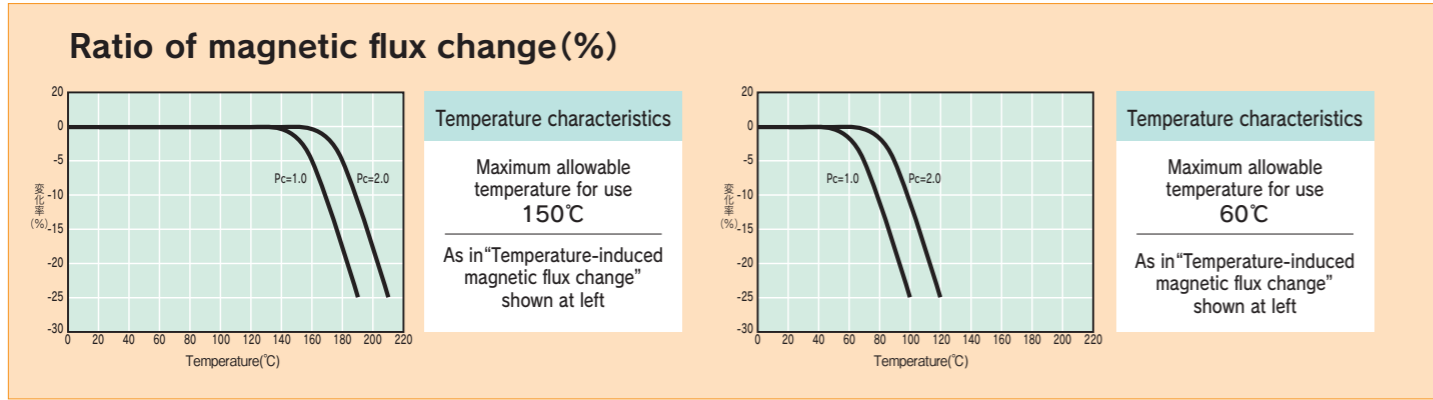
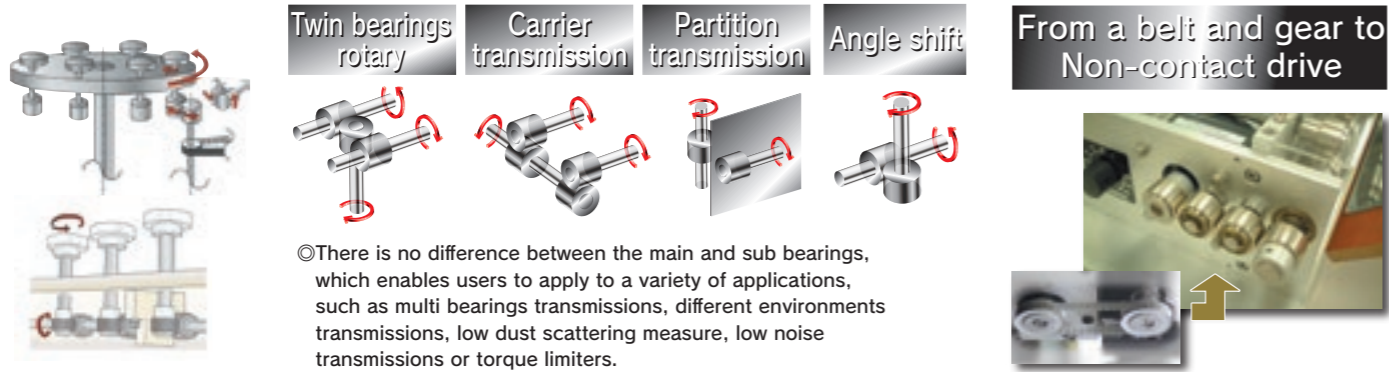


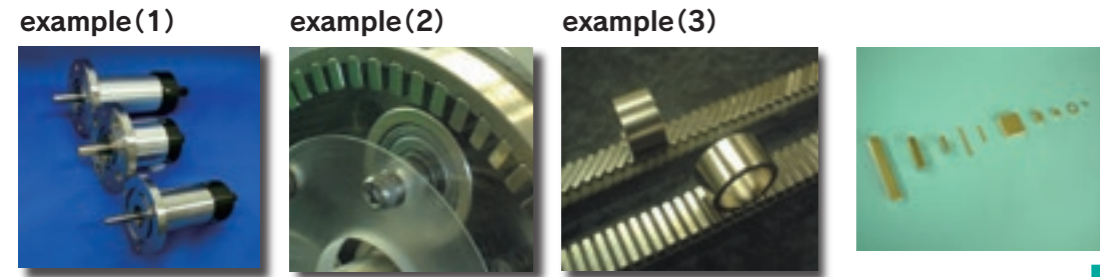
# Temperature-induced magnetic flux change



## Usage Examples



## Application Examples



- ▲MG type Rotary Feedthrough  
·MG type Rotary Feedthrough
  - ▲Planetary gear unit
  - ▲MagTran & Non-contact Rack and Pinion
- ©We answer the needs of our users who require a clean conveyance mechanism which utilizes "MagTran" and is diversified, and we consider the design and manufacture of products for various applications.
- ©We have many special magnets standardized with original technology, combined with "MagTran", prepared so that it can apply widely.
- ©"MagTran" is shipped after through quality control which clears the inspection standard of JIS (Japanese Industrial Standards).
- ©"MagTran" has wide adoption both in Japan and overseas.

**MagTran·Movie**

<https://www.youtube.com/channel/UCY9meqH3dEKTf1p4DvMPig>

For more in formation about "MagTran" toothless gears , please visit this link.

**[Warranty]**

- This product is guaranteed for one year after the date of shipment from the manufacture. However, this guarantee does not include damage to the product resulting from mishandling mentioned in the instructions.

**Caution!**

- This product uses a stable plasma atmosphere. Do not place near magnetic devices such as watches.
- The specifications described here are for this product. Before installing, a structural study is needed.
- Technical study and appropriate measures should be taken for the use of this product when being installed in proximity to magnetic devices.
- A specially attached permanent magnet is used in this product, however if used in an environment not mentioned in the specifications or in one which causes the current to disengage, the coercivity decreases or completely fails.
- Maximum performance is guaranteed only when used as a set.
- All products must be used in a normal environment. For special environments, specific handling instructions are required.
- Sintered material is used in this product. Mishandling or constrained power will damage the product. Handle and store it carefully. Do not use damaged products.

©This product is considered a "Technical component" and is widely sold. It is recommended to refer to other company's "Applied patent" first and conduct a preliminary survey to avoid interference.

## Kara Consulting Inc.

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# Toothless Gear MagTran®

< MagTran >  
Registered Trademark

Serving Torque limiters

Ultra low noise

Low gas generation

Ultra low dust scattering

Low cost

**International Trade and Industry Minister Award**  
 New system revolutionizes manufacturing process of clean products

## Non-Contact Drive Transmission Mechanism

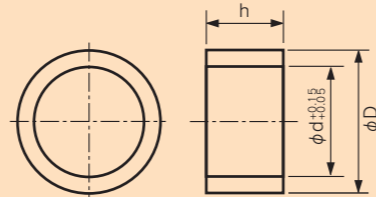
# MagTran FD型

Highly Efficiency Toothless Gear  
(Vacuum Model / Atmospheremodel)



RoHS Counterparts

OD	Model	ID <sup>+0.15</sup> / <sub>+0.05</sub>	Height
φ35	FD35	φ29	22
φ26	FD26	φ20	14
φ22	FD22	φ17	12
φ16	FD16	φ12	8

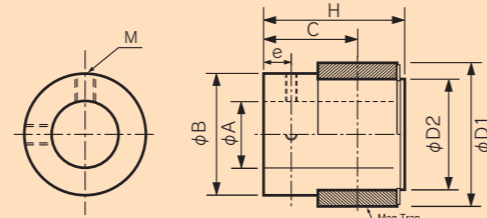


## FD型 With holder

Model	φD1	φD2	φA <sup>+0.03</sup> / <sub>+0.01</sub>	φB	H	C	M	e
FD35	35	29	φ15	32	34.0	21	M4	5
			φ20					
FD26	26	20	φ12	22	25.5	17	M3	5
			φ15					
FD22	22	17	φ10	18	23.5	16	M3	5
			φ12					
FD16	16	12	φ6	13	19.5	14	M3	5
			φ8					

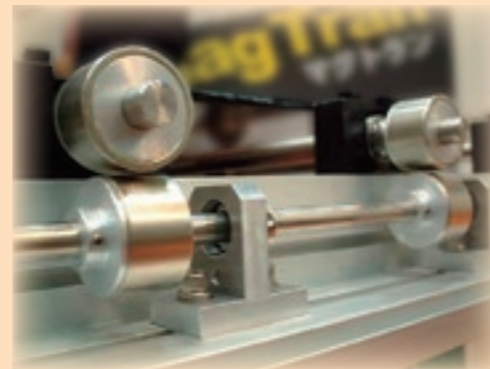
◎A shaft can be attached easily.

- Hex stop screw
- Aluminum [Anti-corrosion]
- Custom sizes also possible.



FD型 Use classification Operating temperature: Standard type 60°C Heat resistance type 150°C

type	Form	Expression	Heat	Expression	Use environment	Expression
Cross type		C	Standard	S	Atmosphere	A
			Heat resistance	H	Vacuum	V
Parallel type		P	Standard	S	Atmosphere	A
			Heat resistance	H	Vacuum	V



FD型 Transfer torque Gap : T = 0.5mm Reference value

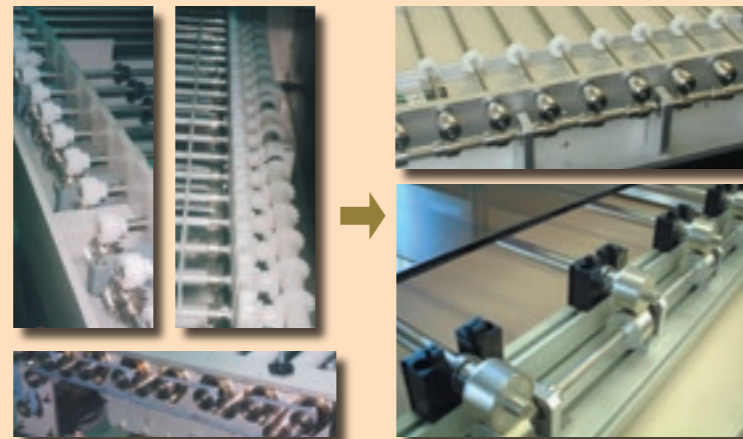
◎Heat resistance torque is reduced by 24% as compared with a standard model.

Model	Cross type (Expression C)	Parallel type (Expression P)
FD35	2.50kgf·cm	5.70kgf·cm
FD26	0.70kgf·cm	1.90kgf·cm
FD22	0.51kgf·cm	1.08kgf·cm
FD16	0.14kgf·cm	0.33kgf·cm

◎The following form factors are the high torque model. (S indication)

Model	Cross type	Parallel type
FD35(S)	3.95kgf·cm	6.10kgf·cm
FD26(S)	1.45kgf·cm	2.20kgf·cm
FD22(S)	0.80kgf·cm	—

◎As for FD35(S) type, we have the left torsion model.



# MagTran FB型

Cost Efficient model for use in non-vacuum environment where cost performance and torque are important.

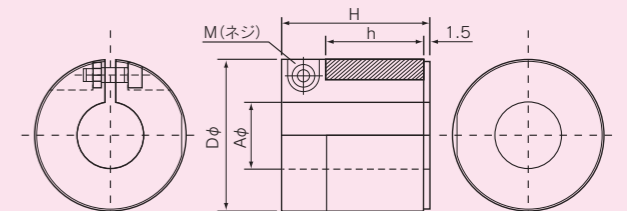


RoHS Counterparts

Model	φDφ	φA <sup>+0.05</sup> / <sub>-0</sub>	All height (H)	height (h)	M
FB45	φ45	20	45	30	5
FB35S FB35	φ35	20	33.5	22	3
		15		2.5	
FB26	φ26	15	25.5	14	2.5
		12		3	
FB16	φ16	6	19.5	8	3
		8		—	
FB8	φ8	5	—	8	—

Operating temperature

Standard type 60°C



◎Standard FBtype : with holder , FB8type : without holder

FB型 Transfer torque Gap: T=0.5mm Reference value

Model	Cross type (Expression C)	Parallel type (Expression P)
FB45	8.20kgf·cm	—
FB35S	3.70kgf·cm	—
FB35	2.25kgf·cm	5.25kgf·cm
FB26	1.00kgf·cm	1.70kgf·cm
FB16	0.15kgf·cm	0.21kgf·cm
FB8	0.06kgf·cm	0.08kgf·cm

→T=0.3mm Reference value

◎As for FB45 & FB35 type, we have the left torsion model.

Product number configuration F□□□-□-□□-□□□

FD26S-C-AS-A12 ※last letter 'L' indicates screw direction (Left)

FD:Highly efficient type  
FB:Only for the non-vacuum environments

Model(OD size)

S:high torque model  
(for only FD type)

C:Cross type  
P:Parallel type

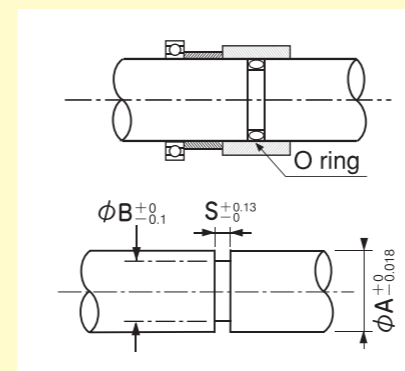
A:With an aluminum holder  
P:With a resin holder  
Specification the hole size  
(Example φ12)

S:Standard model  
H:Heat resistance model

A:Atmosphere  
V:Vacuum



[Sample] Shaft designing dimensions and set up



■O Ring size

Model	O ring size
FD35	P22A
FD26	P16
FD22	P12
FD16	P9

■Groove dimensions Table

Model	A <sup>+0.018</sup>	B <sup>+0.1</sup>	S <sup>+0.13</sup>
FD35	φ29	φ22.85	3.7
FD26	φ20	φ16.1	2.6
FD22	φ17	φ13.1	2.6
FD16	φ12	φ8.90	2.6

※Groove dimensions do not use sealing specifications.

◎When installing, apply absolute ethanol (alcohol) into O-ring for smooth insertion of the MagTran.

◎Increase (double or more) the O-ring groove if concern for slipping occurs.

◎Adhesive can be used in non-vacuum applications to fix it securely.