膜片式联轴器选型 Selection – Membrane Coupling

联轴器概述 General Information

膜片联轴器是一种无齿隙免维护的联轴器，其膜片由不锈弹簧钢制成，强度高，扭向刚性好，补偿偏差能力强，回复力低，能承受高温。

Membrane coupling is of zero backlash and free maintenance. Its Membrane is made of stainless steel spring, which has the features as higher strength, better torsional stiffness, strong deviation compensation, smaller restoring force, better resistance to high temperature, etc…

1.膜片由有限元分析法优化设计 Optimized design for Membrane by Finite Element Analysis

不锈弹簧钢膜片采用有限元分析法设计。膜片外圆上特殊的形状是优化设计的结果，避免了联轴器在纠偏时膜片产生的应力集中，延长了工作

Finite Element analysis is used to design stainless steel spring membrane. Special appearance on ex–circle, designed to avoid stress concentration when coupling compensates the deviation, extend the service life of the coupling.

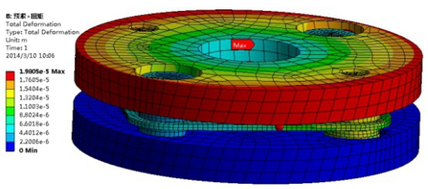


图 3-6 变形分布图

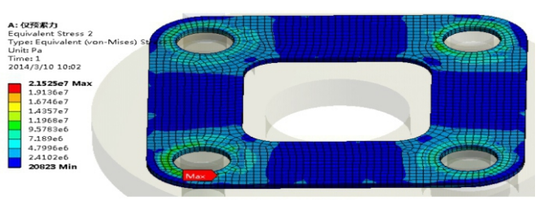


图 3-4 膜片等效应力分布图

2.防爆性能 Explosion–proof Performance

RIC\RDC系列联轴器适用于有防爆要求的场合

RIC/RDC couplings are designed for explosion–proof application

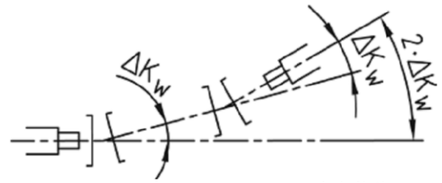
技术参数 Technical Parameters	符号 Symbol	说明 Note
联轴器许用额定扭矩 Allowable Rated Torque	T_{KN}	在允许的速度范围内连续运转所能传递对的扭矩 The torque transmitted by continuous running within the allowable speed.
联轴器许用交变扭矩 Allowable Alternative Torque	T_{KW}	在频率为10Hz 额定力矩TN或动态载荷达到TN时的允许交变扭矩的振动幅度 Vibration amplitude of allowable alternative torque under frequency of 10Hz, rated torque TN or dynamic load at TN
联轴器许用最大扭矩 Allowable Maximum Torque	T_{KMAX}	在联轴器整个工作寿命中传递大于10^5次动态载荷或5x10^4次交变载荷时的许用扭矩 Allowable torque transmitted by more than 10^5 dynamic load or 5x10^4 alternative load during the whole lifetime of the coupling.

1.允许偏差 Allowable Deviation

△Ka: 允许轴向偏差 Allowable Axial Deviation
△Kw: 允许角向偏差 Allowable Angular Deviation
△Kr: 允许径向偏差 Allowable Radial Deviation

膜片联轴器选型时每组膜片最大许用角向偏差为△Kw，因此双节式的膜片联轴器的最大许用角向偏差为2·△Kw，每组膜片的许用角向偏差参见“技术

Note: △Kw stands for max allowable angular deviation for each membrane set, and 2. Kw for max allowable angular deviation for 2 membranes. Pls refer to “technical parameter” for allowable angular deviation of each membrane.



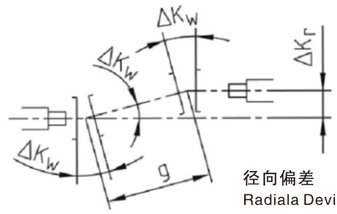
角向偏差
Angular Deviation

允许径向偏差△Kr与联轴器轴间距的关系为：
Relationship between allowable radial deviation △Kr and space of couplings (g):

$$\Delta K_r = g \cdot \tan(\Delta K_w)$$

在技术参数表中标出了各种规格相对应的允许径向偏差△Kr，以及各种规格和型号的允许最大角向偏差△Kw和轴向偏差△Ka，但三项偏差相互关联，当轴向偏差△Ka增大时，相应的角向偏差△Kw和径向偏差△Kr就会减小

△Kr(allowable radial deviation),△Kw(Max angular deviation) and△Ka(Axial deviation) can be found for each item/part in the table of technical parameter. They are interrelated, when△Ka(Axial deviation) increases,△Kr(allowable radial deviation),△Kw(Max angular deviation) will decrease accordingly.



径向偏差
Radiala Deviation

2.无交变扭矩的传递 Transmitted without Alternative Torque

联轴器选型时应考虑额定扭矩TKN和最大扭矩TKMAX,例如风机，压缩机等

TKN(rated torque) and Tkmax(Max torque) should be considered for a given coupling, e.g. blower, compressor, etc..

2.1 额定扭矩载荷 Rated Torque Loading

在考虑了工况系数SB,旋向系数SR和温度系数ST的影响后，联轴器的允许额定扭矩TKN需大于设备的额定扭矩TN

TKN (allowable rated torque of the coupling) should be over TN(rated torque of the equipment), for the influence of SB(working condition), SR(rotation coefficient) and ST(Temperature).

设备额定扭矩计算/Calculation of rated torque of equipment: TN(Nm) =9550.P(KW)/n(rpm)
联轴器额定扭矩TKN / Rated torque of coupling TKN
TKN≥TN × SB × SR × ST

TN: 设备的工作扭矩 Operation torque of equipment
SB: 工况系数 Working conditions
SR：旋向系数 Rotation coefficient
SR=1.0,始终一个方向旋转 Rotate in one direction all the time
SR=1.7,正反转 Rotate clockwise and anticlockwise
ST: 温度系数 Temperature coefficient

工况系数 Working Conditions SB

应用 Application	SB
工程机械 Engineering Machinery	2.0
搅拌机 Stirring Mill	1.0–2.0
离心机 Centrifuge	1.5
输送设备 Conveying Equipment	2.0
起重机 Crane	2.0
鼓风机 Blower	1.5
发电机 Generator	1.0
冷却机 Cooler	2.0
破碎机 Crusher	2.5
纺织机械 Textile Machinery	2.0
轧钢设备 Rolling Equipment	2.5
木工设备 Wood Working Equipment	1.5

应用 Application	SB
搅拌机和注塑机 Stirring Machine & Injection Machine	2.0
冲压机 Punch	2.5
机床 Machine Tool	2.0
磨碎机 Grinding Mill	2.5
包装机械 Packing Machinery	1.0
轧辊驱动 “Roller Drive”	2.5
活塞泵 Piston pump	2.5
离心泵 Centrifugal pump	1.5
活塞压缩泵 Compression piston pump	2.5
蜗杆压缩泵 Worm compressor pump	2.0

温度系数 Temperature Coefficient ST

温度系数 Temperature Coefficient St						
℃	–30.0	0.0	150.0	200.0	230.0	270.0
ST	1.0	1.0	1.0	1.1	1.25	1.43

用户选型时请充分考虑以上工况系数
User selection should be fully considered the above conditions coefficient.

2.2 冲击载荷 Impulsive Load

在考虑了工况系数SB,温度系数ST和旋向系数SR的影响后，联轴器最大许用扭矩TKMAX必须大于设备的冲击扭矩Ts和额定扭矩TN之和。此种情况是考虑了设备运转时受到冲击载荷的影响。如果从动件的转动惯量较大，请与我司技术部门联系。
After considering the influence of working condition coefficient Sb, temperature coefficient St and rotation coefficient Sr, the maximum permissible torque of the coupling Tkmax must be greater than the sum of the impact torque Ts and the rated torque of the equipment Tn. In this case, the impact load is affected by the operation of the equipment. If the rotational inertia of the follower is larger, please contact our technical department.

TKMAX≥(TN+TS) × SR × ST
TN: 设备的工作扭矩 Operation torque of equipment
SB: 工况系数 Working conditions
SR：旋向系数 Rotation coefficient
SR=1.0,始终一个方向旋转 Rotate in one direction all the time
SR=1.7,正反转 Rotate clockwise and anticlockwise
ST: 温度系数 Temperature coefficient
TS: 峰值力矩 Peak Torque

3.有交变扭矩传动 Transmission under Alternative Torque

对于存在高交变扭矩的传动，如柴油机，活塞式压缩机，柱塞泵，发电机等，必须进行扭振计算来确保运行安全。对于存在交变扭矩的运行场合，用户在选型时请与我司技术部门联系，以便帮您准确的选型。
such as diesel engine, piston compressor, plunger pump and generator, etc, it is necessary to calculate torsional oscillation for the purpose of operation safety. For transmis sion under alternative torque, Customers are recommended to contact our technology department to ensure appropriate selection.

技术准则 Technical Rules

1.安装操作 Mounting

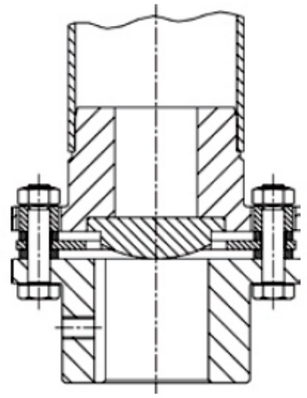
安装时请保证膜片轴向无变形
Please ensure no deformation in axial direction occurs in mounting.

2.安装 Mounting Requirement

标准型RDC\RIC产品适合水平和垂直安装，有中间体的产品垂直安装时中间体必须有支撑。
RDC/RIC standard couplings are allowed to be mounted horizontally and vertically. If the product contains an intermediate, the part must be supported if mounted vertically.

3.动平衡 Dynamic Balance

可根据用户要求做动平衡，绝大多数情况下，不需要做动平衡。如有疑问可与我司技术部门联系。
We provide dynamic balance if customer requests, though it is not necessary in most cases. If you have any question, please contact our technical department.



4.安全准则 Safety Rules

1.选择联轴器时必须保证在任何工况下工作载荷不能超出联轴器的允许载荷。因此实际工作载荷与联轴器允许载荷必须做比较。
When select, the operation torque of coupling must not exceed the allowable torque in any working conditions. The actual working load must be compared to the allowable torque.
2.用户必须防止意外触碰旋转部件。
Customers must prevent rotating parts from being touched by accident.
3.为防止联轴器万一因过载造成断裂，应采取充分的保护措施。
Customers are recommended to take sufficient protection measures to prevent couplings from rupture in case of overload.

REACH膜片联轴器分RIC和RDC系列 REACH Diaphgram Couplings Cover RIC and RDC Series

RIC系列 RIC Series

・RIC主体联轴器材料采用轻质、高强度强力铝合金材料制造,膜片采用弹簧用高强度不锈钢片制造；使RIC膜片联轴器在实现高扭转刚性、高应答性的同时，具有极低转动惯量。

・RIC标准联轴器分为单膜片的RIC–□–O型和装有双膜片的RIC–□–T型.RIC

・应用：数控机床、纺织机械、印刷机以及其他要求转动惯量低，转速高，传递精度高的场合

RIC Couplings are made of light–weight and high–strength aluminum alloy.
The diaphgrams are made of high strength stainless steel sheets. .

RIC diaphgrams are characterized by high torsional stiffness and response with pretty low moment of inertia.
Couplings are divided into single–diaphgram RIC–□–o type and double–diaphgram RIC–□–T type.

Application: CNC machine tool ,Textile Machinery, Printing press,Printing presses and other requirements of low rotational inertia, high speed, high transmission accuracy occasion.

REACH膜片联轴器分RIC和RDC系列 REACH Diaphgram Couplings Cover RIC and RDC Series

RDC系列 RDC Series

・RDC主体联轴器材料采用碳钢材料制造,膜片采用弹簧用高强度不锈钢片制造；使RDC膜片联轴器具有超高扭转刚性特点,非常适用于精密传动。

・RDC标准联轴器有单、双膜片多种结构，详见 44~50页。

・应用：压缩机、泵、搅拌机、混合机以及其他负载较大的场合

RDC Couplings and diaphgrams are made of carbon steel materials and high–strength stainless steel sheets respectively. All these make the couplings perfect for the precision transmission because of high torsional stiffness.

RDC Standard Couplings are designed with single and double diaphgrams. For more details, please refer to page 44 to page 50.

Application: Compressor, pump, mixer and other load larger occasions.

RIC 膜片联轴器 RIC Diaphragm

型号说明 Model Coding

RIC–060–T–A–15B–20B
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

① 从动轴连接方式(B—螺钉夹紧式)
② 孔径尺寸代码（从动轴）
③ 主动轴连接方式(B—螺钉夹紧式)
④ 孔径尺寸代码（主动轴）
⑤ 产品结构代码2（A/B/C)
⑥ 产品结构代码1(O/T)
⑦ 规格代码
⑧ 种类代码

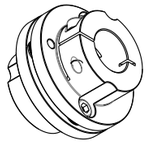
① Driven shaft’s connection type (B—bolt clamping)
② Hole diameter code (driven shaft)
③ Driving shaft’s connection type (B—bolt clamping)
④ Hole diameter code (driving shaft)
⑤ Product Structure code 2 (A/B/C)
⑥ Product Structure code 1(O/ T)
⑦ Model code
⑧ Category code

RIC 膜片联轴器 RIC Diaphragm Coupling

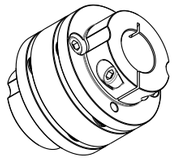
产品特点及应用场合 Product Feathers and Applications

产品概览 Product Overview

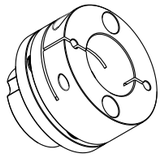
RIC-XXX-0-A



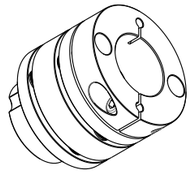
RIC-XXX-T-A



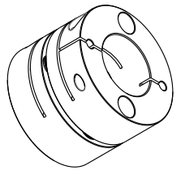
RIC-XXX-0-B



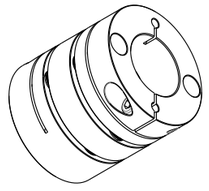
RIC-XXX-T-B



RIC-XXX-0-C



RIC-XXX-T-C



项目 Item		RIC-XXX-0单膜片联轴器 RIC-XXX-0 Single Diaphragm Coupling	RIC-XXX-T双膜片联轴器 RIC-XXX-T Double Diaphragm Coupling
容许扭矩 Allowable Torque（N·m）		0.6~250	0.6~250
孔加工直径范围 Hole Machining Diam-eterRange (mm)		3~45	3~45
使用温度 Operation Temperatur（℃）		-30~+100	-30~+100
最大容许误差 Max. Allowable Error	径向 Radial（mm）	0.02	0.05~0.44
	角向 Angular（°）	0.5~1	1~2
	轴向 Axial（mm）	±0.05~±0.74	±0.1~±1.48

RIC 膜片联轴器 RIC Diaphragm Coupling

产品特点及应用场合 Product Feathers and Applications

产品特点 Product Feathers

1、RIC系列膜片联轴器主体（半联轴节）采用高强度铝合金材料制造，在实现高扭转刚度和高响应速度的同时，具有极低的转动惯量。

2、采用不锈钢材料制作挠性部件（膜片），具有结构紧凑，无背隙的特点，且能吸收两轴角向、轴向、径向（此项仅双膜片具有）误差。

3、有刚性更高的RIC-XXX-0单膜片结构，也有更具挠性的RIC-XXX-T双膜片结构供选择使用。

4、孔径较小时可以选择A型或B型结构型式，将联轴器转动惯量降至更低，以更适合启动加速度高的场合。

5、产品出厂前采用专用治具定心组装，确保了两端孔的同轴度

6、联轴器输入、输出轴均采用夹紧方式，使用户的安装、维护工作极易进行。

1. RIC series diaphragm coupling main body (half-coupling) is made of high strength aluminum alloy materials, it can realize high torsional rigidity and high response speed, in the mean time, the rotation inertia is very low.
2. The flexible component is made of stainless steel materials, the structure is compact and no back clearance, it can also absorb the errors in angular, axial, and radial (only for double diaphragm coupling) directions for the two shafts.
3. The RIC-XXX-0 single diaphragm structure has higher rigidity, the RIC-XXX-T double diaphragm structure has more flexibility, these are two options to be selected from.
4. When the hole size is relatively small, A Model or B Model structure form can be selected, which can reduce the coupling's rotation inertia even lower, so it is more suitable for high acceleration speed occasions.
5. Before delivery, the coupling is assembled with special jig machine, so as to ensure the holes' coaxiality
6. Both of the coupling's input and output shafts use clamping method, so as to ensure customers' convenience for installation and maintenance.

应用场合 Applications

本产品可广泛应用于：数控机床、药品机械、食品机械、各种自动化生产线及模组、滑台等要求转动惯量低、加减速快、传动精度高、防腐蚀、无污染场合。

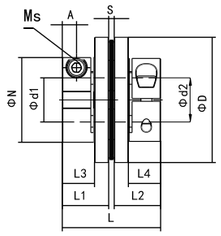
The products can be widely applied to: CNC, chemical machineries, food machineries, various automatic production lines and mould groups, moving tables etc. which require low rotation inertia, quick speed up and slow down, high transmission accuracy, anti-corrosion, non-pollution working conditions.

RIC 膜片联轴器 RIC Diaphragm Coupling

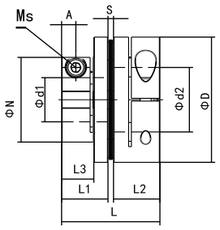
单膜片联轴器尺寸及技术参数 Technical Specification Form for Single Diaphragm Coupling

产品尺寸表 Technical Specification Form

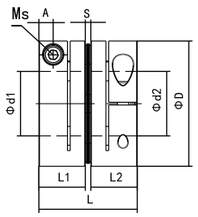
RIC-XXX-0-A

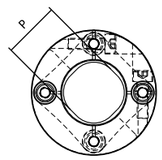


RIC-XXX-0-B



RIC-XXX-0-C





注：产品实际装配方向与上图不尽相同，请以实际确认图为准。

Note: the product’s actual assembling direction may not as same as above drawings, please follow actual confirmation drawings.

型号 Model	d1		d2		D	N	L	L1	L2	L3	L4	S	A	P	Ms	锁紧力矩 Locking Torque（N·m）
	min	max	min	max												
RIC-005-0-C	3	6	3	6	16	—	16.6	7.85	7.85	—	—	0.9	2.50	6.5	M2	0.4~0.5
RIC-010-0-C	3	8	3	8	19	—	19.2	9.15	9.15	—	—	0.9	3.15	8.5	M2	0.4~0.5
RIC-020-0-C	4	10	4	11	26	—	23.0	10.75	10.75	—	—	1.5	3.30	10.5	M2.5	1.0~1.1
RIC-025-0-C	5	14	5	14	29	—	23.3	10.75	10.75	—	—	1.8	3.30	14.5	M2.5	1.0~1.1
RIC-030-0-A	5	10	5	10	34	21.6	27.4	12.4	12.4	8.9	8.9	2.6	3.80	14.5	M3	1.5~1.9
RIC-030-0-B	5	10	5	16		21.6				8.9	—					
RIC-030-0-C	5	14	5	16		—				—	—					
RIC-035-0-C	6	16	6	18	39	—	34.2	15.5	15.5	—	—	3.2	4.50	17	M4	3.4~4.1
RIC-040-0-A	8	15	8	15	44	29.6	34.2	15.5	15.5	10.5	10.5	3.2	4.50	19.5	M4	3.4~4.1
RIC-040-0-B	8	15	8	22		29.6				10.5	—					
RIC-040-0-C	8	22	8	22		—				—	—					
RIC-050-0-A	8	19	8	19	56	38	43.4	20.5	20.5	14	14	2.4	6.00	26	M5	7.0~8.5
RIC-050-0-B	8	19	8	30		38				14	—					
RIC-050-0-C	8	25	8	30		—				—	—					
RIC-060-0-A	11	24	11	24	68	46	53.4	25.2	25.2	17.5	17.5	3	7.75	31	M6	14~15
RIC-060-0-B	11	24	11	35		46				17.5	—					
RIC-060-0-C	11	30	11	35		—				—	—					
RIC-080-0-C	18	35	18	40	82	—	68	30	30	—	—	8	9.00	38	M8	27~30
RIC-090-0-C	25	40	25	45	94	—	68.3	30	30	—	—	8.3	9.00	42	M8	27~30
RIC-100-0-C	32	45	32	45	104	—	69.8	30	30	—	—	9.8	9.00	48	M8	27~30

注：因结构形式的影响，两端孔的最大值并不能一样，尽请留意！

Note: due to structure form, the max. values for the holes at the two sides are not the same, please pay attention!

RIC 膜片联轴器 RIC Diaphragm Coupling

单膜片联轴器尺寸及技术参数 Technical Specification Form for Single Diaphragm Coupling

技术参数表 Technical Specification Form

型号 Model	容许扭矩 Allowable Torque Tkmax（N·m）	最高转速 Max. Rotating Speed（rpm）	扭转刚度 Torsional Rigidity（N·m/rad）	轴向刚度 Axial Rigidity（N/mm）	最大允许误差 Max. Allowable Error			转动惯量 Rotation Inertia（kg·m²）	质量 Mass（kg）
					径向 Radial（mm）	角向 Angular（°）	轴向 Axial（mm）		
RIC-005-0-C	0.6	10000	500	140	0.02	0.5	±0.05	0.27×10^{-6}	0.007
RIC-010-0-C	1	10000	1400	140	0.02	1	±0.1	0.6×10^{-6}	0.011
RIC-020-0-C	2	10000	3700	64	0.02	1	±0.15	2.47×10^{-6}	0.025
RIC-025-0-C	4	10000	5600	60	0.02	1	±0.19	3.78×10^{-6}	0.03
RIC-030-0-A	5	10000	8000	64	0.02	1	±0.2	4.18×10^{-6}	0.035
RIC-030-0-B								6.27×10^{-6}	0.041
RIC-030-0-C								8.44×10^{-6}	0.05
RIC-035-0-C	8	10000	18000	112	0.02	1	±0.25	19.12×10^{-6}	0.086
RIC-040-0-A	10	10000	20000	80	0.02	1	±0.3	17.19×10^{-6}	0.079
RIC-040-0-B								23.63×10^{-6}	0.09
RIC-040-0-C								30.49×10^{-6}	0.105
RIC-050-0-A	25	10000	32000	48	0.02	1	±0.4	57.71×10^{-6}	0.164
RIC-050-0-B								78.78×10^{-6}	0.182
RIC-050-0-C								102.1×10^{-6}	0.213
RIC-060-0-A	60	10000	70000	76	0.02	1	±0.45	147.2×10^{-6}	0.286
RIC-060-0-B								208.1×10^{-6}	0.331
RIC-060-0-C								273.6×10^{-6}	0.392
RIC-080-0-C	100	10000	140000	128	0.02	1	±0.55	733.7×10^{-6}	0.736
RIC-090-0-C	180	10000	100000	108	0.02	1	±0.65	1268×10^{-6}	0.973
RIC-100-0-C	250	10000	120000	111	0.02	1	±0.74	1937×10^{-6}	1.229

注：

1、表中转动惯量和质量为孔径最大时的理论值。

2、表中扭转刚度为膜片组扭转刚度的理论值。

3、最高转速为离心力、强度等因素校核所得，未考虑动平衡。

4、表中各向允许误差是相互关联的，不能同时达到最大值。如：角向误差和轴向误差同时存在，当角向误达到最大允许值的70%时，则轴向误差值不能超过最大允许值的30%

Note:

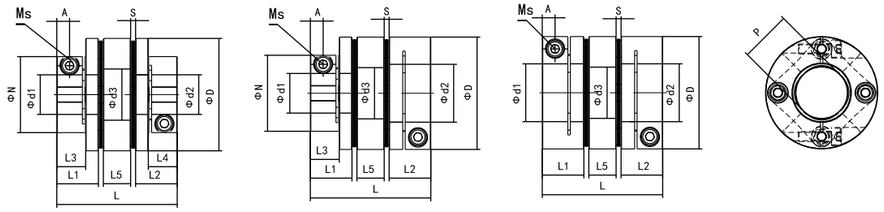
1. In the table, the values of rotational inertia and mass are theoretical ones measured when the hole diameter at one side is at its maximum.
2. In the table, the torsional rigidity is the diaphragm group’s theoretical value for torsional rigidity.
3. The maximum rotating speed has taken into consideration the factors such as centrifugal force, rigidity, etc., the dynamic balance is not considered.
4. In the table, the allowable errors in each direction are mutually relevant, they can not reach the maximum value at the same time. Example: the angular error and axial error can exist at the same time, when the angular value reaches 70% of the maximum allowable value, then the axial error is not allowed to go above 30% of the maximum allowable value.

RIC 膜片联轴器 RIC Diaphragm Coupling

双膜片联轴器尺寸及技术参数 Technical Specification Form for Double Diaphragm Coupling

产品尺寸表 Technical Specification Form

RIC-XXX-T-A　　RIC-XXX-T-B　　RIC-XXX-T-C



注：产品实际装配方向与上图不尽相同，请以实际确认图为准。

Note: the product’s actual assembling direction may not as same as above drawings, please follow actual confirmation drawings.

型号 Model	d1		d2		d3	D	N	L	L1	L2	L3	L4	L5	S	A	P	Ms	锁紧力矩 Locking Torque (N·m)
	min	max	min	max														
RIC-005-T-C	3	6	3	6	6.5	16	—	23.6	7.85	7.85	—	—	6.1	0.9	2.50	6.5	M2	0.4~0.5
RIC-010-T-C	3	8	3	8	8.5	19	—	26.3	9.15	9.15	—	—	6.2	0.9	3.15	8.5	M2	0.4~0.5
RIC-020-T-C	4	10	4	11	11	26	—	33.6	10.75	10.8	—	—	9.1	1.5	3.30	10.5	M2.5	1.0~1.1
RIC-025-T-C	5	14	5	14	15	29	—	33.6	10.75	10.8	—	—	8.5	1.8	3.30	14.5	M2.5	1.0~1.1
RIC-030-T-A	5	10	5	10			21.6				8.9	8.9						
RIC-030-T-B	5	10	5	16	15	34	21.6	38	12.4	12.4	8.9	—	8	2.6	3.80	14.5	M3	1.5~1.9
RIC-030-T-C	5	14	5	16			—				—	—						
RIC-035-T-C	6	16	6	18	17	39	—	48.4	15.5	15.5	—	—	11	3.2	4.50	17	M4	3.4~4.1
RIC-040-T-A	8	15	8	15			29.6				10.5	10.5						
RIC-040-T-B	8	15	8	22	20	44	29.6	48.4	15.5	15.5	10.5	—	11	3.2	4.50	19.5	M4	3.4~4.1
RIC-040-T-C	8	22	8	22			—				—	—						
RIC-050-T-A	8	19	8	19			38				14	14						
RIC-050-T-B	8	19	8	30	26	56	38	59.8	20.5	20.5	14	—	14	2.4	6.00	26	M5	7.0~8.5
RIC-050-T-C	8	25	8	30			—				—	—						
RIC-060-T-A	11	24	11	24			46				17.5	17.5						
RIC-060-T-B	11	24	11	35	31	68	46	72.9	25.2	25.2	17.5	—	16.5	3	7.75	31	M6	14~15
RIC-060-T-C	11	30	11	35			—				—	—						
RIC-080-T-C	18	35	18	40	40	82	—	101	30	30	—	—	25	8	9.00	38	M8	27~30
RIC-090-T-C	25	40	25	45	47	94	—	101.6	30	30	—	—	25	8.3	9.00	42	M8	27~30
RIC-100-T-C	32	45	32	45	50	104	—	104.6	30	30	—	—	25	9.8	9.00	48	M8	27~30

注：因结构形式的影响，两端孔的最大值并不能一样，尽请留意！

Note: due to structure form, the max. values for the holes at the two sides are not the same, please pay attention!

RIC 膜片联轴器 RIC Diaphragm Coupling

双膜片联轴器尺寸及技术参数 Technical Specification Form for Double Diaphragm Coupling

技术参数表 Technical Specification Form

型号 Model	容许扭矩 Allowable Torque Tkmax (N·m)	最高转速 Max. Rotating Speed (rpm)	扭转刚度 Torsional Rigidity (N·m/rad)	轴向刚度 Axial Rigidity (N/mm)	最大允许误差 Max. Allowable Error			转动惯量 Rotation Inertia ($kg \cdot m^2$)	质量 Mass (kg)
					径向 Radial (mm)	角向 Angular (°)	轴向 Axial (mm)		
RIC-005-T-C	0.6	10000	250	70	0.05	1	±0.1	0.39×10^{-6}	0.011
RIC-010-T-C	1	10000	700	70	0.11	2	±0.2	0.84×10^{-6}	0.016
RIC-020-T-C	2	10000	1850	32	0.16	2	±0.3	3.72×10^{-6}	0.038
RIC-025-T-C	4	10000	2800	30	0.15	2	±0.38	5.58×10^{-6}	0.043
RIC-030-T-A								7.65×10^{-6}	0.055
RIC-030-T-B	5	10000	4000	32	0.14	2	±0.4	9.74×10^{-6}	0.062
RIC-030-T-C								11.91×10^{-6}	0.07
RIC-035-T-C	8	10000	9000	56	0.19	2	±0.55	27.92×10^{-6}	0.127
RIC-040-T-A								30.89×10^{-6}	0.127
RIC-040-T-B	10	10000	10000	40	0.19	2	±0.65	37.33×10^{-6}	0.139
RIC-040-T-C								44.19×10^{-6}	0.154
RIC-050-T-A								102.1×10^{-6}	0.259
RIC-050-T-B	25	10000	16000	24	0.24	2	±0.8	123.2×10^{-6}	0.277
RIC-050-T-C								146.5×10^{-6}	0.308
RIC-060-T-A								258.3×10^{-6}	0.451
RIC-060-T-B	60	10000	35000	38	0.28	2	±0.9	319.2×10^{-6}	0.495
RIC-060-T-C								384.7×10^{-6}	0.556
RIC-080-T-C	100	10000	70000	64	0.44	2	±1.1	1103×10^{-6}	1.102
RIC-090-T-C	180	10000	50000	54	0.44	2	±1.3	1895×10^{-6}	1.444
RIC-100-T-C	250	10000	60000	55.5	0.44	2	±1.48	2901×10^{-6}	1.827

注：

1、表中转动惯量和质量为孔径最大时的理论值。

2、表中扭转刚度为膜片组扭转刚度的理论值。

3、最高转速为离心力、强度等因素校核所得，未考虑动平衡。

4、表中各向允许误差是相互关联的，不能同时达到最大值。如：角向误差和轴向误差同时存在，当角向误达到最大允许值的70%时，则轴向误差值不能超过最大允许值的30%

Note:

1. In the table, the values of rotational inertia and mass are theoretical ones measured when the hole diameter at one side is at its maximum.
2. In the table, the torsional rigidity is the diaphragm group’s theoretical value for torsional rigidity.
3. The maximum rotating speed has taken into consideration the factors such as centrifugal force, rigidity, etc., the dynamic balance is not considered.
4. In the table, the allowable errors in each direction are mutually relevant, they can not reach the maximum value at the same time. Example: the angular error and axial error can exist at the same time, when the angular value reaches 70% of the maximum allowable value, then the axial error is not allowed to go above 30% of the maximum allowable value.

RIC 膜片联轴器 RIC Diaphragm Coupling

标准孔径及容许传递扭矩 Standard Hole Size and Allowable Transmission Torque

型号 Model	孔径范围 Hole Size Range		3	4	5	6	6.35	7	8	9	9.525	10	11	12	14	15	16	17	18
RIC-005-0/T	d1	孔容许传递最大扭矩 Allowable Transmission Torque of the Hole Size （N·m）	0.6	0.6	0.6	0.6													
	d2		0.6	0.6	0.6	0.6													
RIC-010-0/T	d1		1	1	1	1	1	1	1										
	d2		1	1	1	1	1	1	1										
RIC-020-0/T	d1			2	2	2	2	2	2	2	2	2							
	d2			2	2	2	2	2	2	2	2	2	2						
RIC-025-0/T	d1				2.1	4	4	4	4	4	4	4	4	4	4				
	d2				2.1	4	4	4	4	4	4	4	4	4	4				
RIC-030-0/T	d1				2.8	3.4	5	5	5	5	5	5	5	5	5				
	d2				2.8	3.4	5	5	5	5	5	5	5	5	5	5	5		
RIC-035-0/T	d1					5	5	6.6	8	8	8	8	8	8	8	8	8		
	d2					5	5	6.6	8	8	8	8	8	8	8	8	8	8	8

型号 Model	孔径范围 Hole Size Range		8	9	9.525	10	11	12	14~17	18、19	20、22	24	25	28、30	32	35	38、40	42~45
RIC-040-0/T	d1	孔容许传递最大扭矩 Allowable Transmission Torque of the Hole Size （N·m）	9	10	10	10	10	10	10	10								
	d2		9	10	10	10	10	10	10	10	10							
RIC-050-0/T	d1		18	20	22	22	25	25	25	25	25	25	25					
	d2		18	20	22	22	25	25	25	25	25	25	25	25				
RIC-060-0/T	d1						50	51	60	60	60	60	60	60				
	d2						50	51	60	60	60	60	60	60	60	60		
RIC-080-0/T	d1									100	100	100	100	100	100	100		
	d2									100	100	100	100	100	100	100	100	
RIC-090-0/T	d1												180	180	180	180	180	
	d2												180	180	180	180	180	180
RIC-100-0/T	d1														226	250	250	250
	d2														226	250	250	250

注：

1、受膜片组内孔尺寸的影响，两端孔径（d1、d2）并不能取同样的最大值。

2、上述扭矩值是在与联轴器配合的轴外径公差为 h7 时校核所得结果。

3、在上表所列的孔径范围内，我司可按客户要求特殊定制（如：加工英制尺寸孔径）。

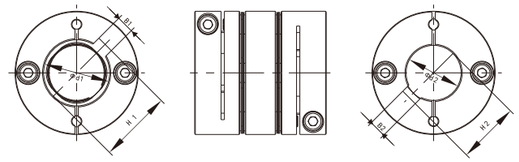
Note:

1. Because of the diaphragm group's inner diameter, the hole sizes(D1, D2) at the two side can not be the same max. value.
2. The above torque is determined when the outer diameter of the conpling's jointed shaft is h7.
3. In the hole size range specified in above table, our company can customize according to customers' requirements. (for example, machining hole size in inch).

RIC 膜片联轴器 RIC Diaphragm Coupling

定制服务—键槽加工 Customized Service– Key Slot Machining

键槽尺寸图 Key Slot Dimension Drawing



键槽尺寸表 Key Slot Dimension Form

孔径 Hole Size （ϕd1、ϕd2）	键槽宽 Key Slot Width (B1 、 B2)	键槽高 Key Slot Height (H1 、 H2)
8	2±0.012	$9^{+0.1}_{0}$
9	3±0.012	$10.4^{+0.1}_{0}$
10	3±0.012	$11.45^{+0.1}_{0}$
11	4±0.015	$12.8^{+0.1}_{0}$
12	4±0.015	$13.8^{+0.1}_{0}$
14	5±0.015	$16.3^{+0.1}_{0}$
15	5±0.015	$17.3^{+0.1}_{0}$
16	5±0.015	$18.3^{+0.1}_{0}$
17	5±0.015	$19.3^{+0.1}_{0}$
18	6±0.015	$20.8^{+0.2}_{0}$
19	6±0.015	$21.8^{+0.2}_{0}$
20	6±0.015	$22.8^{+0.2}_{0}$
22	6±0.015	$24.8^{+0.2}_{0}$
24	8±0.018	$27.3^{+0.2}_{0}$
25	8±0.018	$28.3^{+0.2}_{0}$
28	8±0.018	$31.3^{+0.2}_{0}$
30	8±0.018	$33.3^{+0.2}_{0}$
32	10±0.018	$35.3^{+0.2}_{0}$
35	10±0.018	$38.3^{+0.2}_{0}$
38	10±0.018	$41.3^{+0.2}_{0}$
40	12±0.021	$43.3^{+0.2}_{0}$
42	12±0.021	$45.3^{+0.2}_{0}$
45	14±0.021	$48.8^{+0.2}_{0}$

注意事项 Matters Needing Attention

一、RIC膜片联轴器依靠联轴器与轴之间夹紧时存在的摩擦力便能可靠的传递“容许扭矩”，孔内增加键槽并不是必须的设计。

二、用户需在孔内加工键槽时，请确认上图及左表中相关键槽的方向和尺寸公差；用户需确保所用键的宽度小于表中键槽宽度。

三、使用钩头键等压入安装的键时，可能造成联轴器在装配或使用过程中发生破损。

四、由于键槽与键的摩擦作用，联轴器在安装到轴上时，可能会对联轴器施加较大的轴向压缩力，请注意消除膜片上受到的压缩力。

五、如键过松，可能在使用中由于键的晃动而产生粉尘，同时键存在脱出的可能，请注意避免。

六、产品代码需相应更改（原孔径后“B”改为“BJ”），示例：RIC-060-T-C-15BJ-20BJ

Note:

1.The RIC diaphragm coupling transmits allowable torque relying on the friction force when the coupling tightly holds the shaft, the additional key slot in the hole is not necessary design.

2.Shall customers choose to machine key slot in the hole, please check the key slot's direction and the dimensional tolerance shown in above drawing or left table, customers need to ensure that the width of the key used is less than the key slot width in the table.

3.When use keys such as gib-head taper stock key that press-in installation shall be employed, damage may be caused to the coupling during assembling and operation.

4.Due to friction between the key slot and the key, when the coupling is installed on the shaft, relatively high compressing force in axial direction may be applied onto the coupling, please take care to eliminate the compressing force applied onto the diaphragm.

5.If the key is loose, the key's vibration may cause dust during operation, it is also possible the key will slip out, please avoid that.

6.The product code need to be changed(“B” to “BJ” behind the hole diameter), example: RIC-060-T-C-15BJ-20BJ

RIC 膜片联轴器 RIC Diaphragm Coupling

选型步骤 Model Selection Steps

1、伺服、步进、变频电机用RIC联轴器扭矩校核

①、确定伺服、步进、变频电机的最大扭矩Tm：

Tm一般为伺服、步进、变频电机额定扭矩的3倍

②、计算联轴器所需容许扭矩（Tn）

Tn=Tm·1.5

Tn——联轴器所需容许扭矩，N·m

Tm——伺服、步进、变频电机标称最大扭矩，N·m

③、依据Tn值初步确定联轴器基本规格，确保所选联轴器容许扭矩Tkmax≥Tn

2、普通电机或驱动设备用RIC联轴器扭矩校核

①、计算联轴器所需传递的扭矩（T）

T=9550·PW/n

T——联轴器需传递扭矩，N·m

PW——电机（或其他驱动机）额定功率，kW

n——电机（或其他驱动机）实际使用转速，r/min（rpm）

②、计算联轴器所需容许扭矩（Tn）

Tn=T·K

Tn——联轴器所需容许扭矩，N·m

T——联轴器需传递扭矩，N·m

K——工况系数，①恒定载荷：K=1、②小变动载荷：K=1.25、③中等变动载荷：K=1.75、④大变动载荷：K=2.25

③、依据Tn值初步确定联轴器基本规格，确保所选联轴器容许扭矩Tkmax≥Tn

3、对于有高的交变扭矩存在的场合（如存在：柴汽油发动机、活塞式压缩机、柱塞泵、发电机等），请联系瑞迪工程师协助计算、选型。

4、确定安装、使用时联轴器的径向、角向、轴向偏差不超过《技术参数表》中的各项限定值，多种偏差同时存在时，允差应按比例减少。理论上单膜片联轴器不能承受径向偏差，如使用中有不可避免的径向偏差存在，请选择双膜片联轴器。

注：

上述Tkmax值请在《技术参数表》中查阅、获取。

1. Use RIC coupling to carry out torque checking for servo motor, stepping motor and variable frequency motor.

①. Determine the maximum torque Tm for servo motor, stepping motor and variable frequency motor:
Tm is usually 3 times of the rated torque of servo motor, stepping motor and variable frequency motor

②. Calculate the needed allowable torque for the coupling（Tn）
Tn=Tm·1.5
Tn——the needed allowable torque for the coupling, N·m
Tm——nominal maximum torque for servo motor, stepping motor and variable frequency motor

③. Based on Tn,the coupling's basic specification is primarily determined, which is to ensure the selected coupling's allowable torque Tkmax≥Tn

2. Use RIC coupling to carry out torque checking for common motors and driving devices.

①. Calculate the needed transmitted torque for the coupling（T）
T=9550·PW/n
T——the needed transmitted torque for the coupling, N·m
PW——the rated torque for motor(or other driving devices), kW
n——actual rotating speed for motor(or other driving devices), r/min（rpm）

②. Calculate the needed transmitted torque for the coupling（Tn）
Tn=T·K
Tn——the needed allowable torque for the coupling, N·m
T——the needed transmitted torque for the coupling, N·m
K——working condition coefficient, ① constant load: K=1, ②small fluctuating load: K=1.25, ③ moderate fluctuating load: K=1.75, ④ big fluctuating load: K=2.25

③ Based on Tn, the coupling's basic specification is primarily determined, which is to ensure the selected coupling's allowable torque Tkmax≥Tn

3. For the occasions with high alternate torque (for example: diesel fuel engine, piston compressor, plunger pump, generator, etc.), please contact the engineers of REACH for calculation and model selection.

4. During installation and operation of the coupling, ensure the errors in in radial, angular, and axial directions not go above every limiting value specified in the Technical Specification Form, when the errors exist at the same time, the allowable errors shall be reduced proportionally. In theory, the single diaphragm coupling can not sustain radial error, during operation, if there is unavoidable radial error, please select the double diaphragm coupling.

Note:

please refer to the Technical Specification Form for checking and obtaining the aforesaid Tkmax value.

RIC 膜片联轴器 RIC Diaphragm Coupling

安装维护说明 Installation and Maintenance Instructions

1、安装使用前，请确认以下内容：

①该产品是否与所订购产品一致；②该产品有无在运输过程中存在损伤

2、安全注意事项：

①、环境及相关装置

a、危险事项：

● 旋转的联轴器可能会对人体造成伤害，请为其设置安全罩，并在安全罩上设置打开急停保护装置

● 请勿将RIC产品应用于有易燃、易爆液体或气体存在或泄漏的地方

● 建议电机或其他驱动装置配置安全刹车装置

b、注意事项

● 请勿该类联轴器产品用于存在化学泄漏、高湿度、冷热温度变化大的场合

②、装配作业

a、危险事项：

● 螺钉的拧紧力矩对产品的使用性能和安全非常重要，请务必按《安装尺寸》表中规定力矩拧紧螺钉

● 安装、拆卸联轴器产品时，必须确保机器已经停转，并已确实切断相关电源

b、注意事项

● 安装联轴器前，请调整两端轴的同轴度，使同轴度误差小于0.02mm（使用RIC单膜片联轴器时）或小于0.05mm（使用RIC双膜片联轴器时）；同轴度误差过大，可能导致装置故障或损坏。

● 请使用本公司提供或与之性能等级相同的螺钉，以免造成产品损坏。

● 请配戴手套等必要的防护装备，以免在拆、装产品时造成人身伤害

● 在搬运、提升重物时，请使用必要的起重设备

③、使用

a、危险事项

● 请勿超出《技术参数表》中规定的最高转速使用联轴器产品，否则可能造成极大振动并损坏产品

● 请勿接触外露的旋转部件，以免造成人身伤害

● 请勿使联轴器两端轴的对中误差过大或超出产品《技术参数表》中允许值，以免使联轴器承受过大附加载荷并对联轴器及相关装置造成损害

b、注意事项

● 请勿使扭矩超过产品的允许值

● 当有异常的噪音或振动产生时，应检查、确认安装是否正确无误；长期的振动可能造成螺钉松动或失效，从

1. Before installation and operation, please confirm the following:
①. If the product is as same as the product ordered; ②. If there is any damage occurred to the product during transportation.

2. Safety precautions:

①. Ambient conditions and relevant devices

i, Hazard notes:

● Rotating couplings may cause harm to human being, please set up safety guard for the coupling, and set up starter on the safety guard for emergency stop protection

● Please avoid operating RIC products close to places with inflammable, explosive liquid or gas or leakage of such

● It is recommended that the motor or other driving devices are equipped with safety brake device

ii, matters needing attention

● This type of couplings are not allowed to operate under the conditions with chemical leakage, high humidity, or big temperature variation

②. Assembling work

I, Hazard notes:

● The bolt's tightening torque is very important to the product's performance and safety, please be sure the bolts are tightened according to the specified torques in the Mounting Dimensions

● When install or dismount the couplings, ensure the machine is already stopped, and relevant power sources are cut off

ii, Matters needing attention

● Before installing the coupling, please ensure the coaxiality error of the shafts on the two sides is less than 0.02mm(for RIC single diaphragm coupling) or less than 0.05mm(for RIC double diaphragm coupling); high coaxiality error can cause failure or damage to the devices.

● Please use bolts provided by REACH or of the same performance and grade, so as to avoid damage to the products.

● Please wear necessary protection devices such as gloves etc, so as to avoid any personal injury during dismounting and installation

● When haul or lift heavy objects, please use necessary hoisting equipment

③. Operation

i, Hazard notes:

● The couplings are not allowed to operate above the maximum rotating speed specified in the Technical Specification Form, so as to avoid over vibration and damage to the products

● Please touch exposed rotating parts, so as to avoid personal injury

Please prevent the centring error of the shafts on the two sides from being too big or going beyond the allowable value specified in the Technical Specification Form, so as to avoid too much additional load applied on the coupling and causing damage to relevant devices

ii, Matters needing attention

● Please do not make the torque go beyond the product's allowable value

● when abnormal noise or vibration occurs, check and

RIC 膜片联轴器 RIC Diaphragm Coupling

安装维护说明 Installation and Maintenance Instructions

而导致整个装置故障。

● 在异常狭窄的场合，应考虑因散热不良引起的温升对产品性能的影响

④、其他

a、危险事项

● 请确保产品不被小孩碰到或玩耍

b、注意事项

● 禁止私自拆解我公司产品，其对产品造成的损坏我公司概不负责

● 报废的产品请交由专业回收机构回收处理

3、安装使用：

①、请确认夹紧螺栓已拧松，并去除轴及联轴器内孔的锈迹、灰尘和油渍等。（请用棉纱等擦拭油迹或根据需要进行除油作业。）

②、将联轴器插入轴时，请勿在元件上施加过大的压缩和拉伸力。特别是在把联轴器安装至电动机后将联轴器插入对方轴时，可能会因错误操作而施加过大的轴向压缩力，请特别注意。

③、在两颗夹紧螺栓处于松动状态下，请确认联轴器是否能轻松轴向移动和旋转。如果无法顺畅移动和旋转，请重新调整两轴的同轴度。（该方法用作两端轴的同轴度好坏的简易确认方法，如果无法使用此种确认方法，请使用打表找正或其他方法确认安装精度。）

④、在带有扁、槽的非圆轴上安装RIC联轴器时，请勿将轴上的扁、槽安装在联轴器开有径向槽的一侧。为获得足够的夹持力矩，建议使用圆轴。

⑤、确保轴插入联轴器的长度和《安装尺寸》表内L1、L2值一致，使轴与联轴器孔充分接触。

⑥、请将联轴器实际S尺寸控制在《安装尺寸》表中“S”值及轴向位移允许误差范围内。该轴向位移允许误差为假设偏心，偏角均为零时的允许值，请尽量调小该误差。

⑦、确认轴向无压缩，拉伸后，拧紧两夹紧螺栓。拧紧夹紧螺栓时，请使用经过校准的转矩扳手，并按《安装尺寸》表内“锁紧力矩”下所列的紧固力矩拧紧。

confirm if the installation is right; long time vibration may cause the bolts' loosening or failures, which leads to the whole equipment's failure.

● When operate in narrow space, is shall be considered that poor heat dissipation may cause the temperature to go up and influence the product's performance

④. Other matters

I, Hazard notes:

● Please ensure the products are not touched or played by children

ii, Matters needing attention

● Disassembling our company's products without permission is forbidden, otherwise, the company is not responsible to any damage to the products.

● The rejected materials shall be sent to special agency for recycling

3. Installation and operation:

①. First loose the coupling's clamp bolts, and remove the rust, dust or oil stains etc. on the shafts or inside the holes of the coupling. (Please use woven cotton etc. to remove oil stains or carry out oil removal work based on requirements)

②. When sleeve the coupling on the shaft, please do not apply too much compressing and pulling force on the components. Especially when sleeve the coupling on the motor shaft after the coupling is already installed into the motor, wrong operation may cause too much axial compressing force, please pay special attention.

③. When the two clamp bolts are loosened, please check if it is possible to easily move the coupling in axial direction or rotate it. If it can not be moved or rotated easily, please re-adjust the two shafts' coaxiality.(this is a easy method to confirm the two shafts' coaxiality, if the method can not be employed for confirmation, please use instrument or employ other methods for confirming installation accuracy)

④. When install the RIC coupling on the non-circular shaft which has flat slot, please do not install the shaft's flat slot on the side of the coupling with radial slot. For obtaining sufficient clamping torque, please use circular shaft.

⑤. Ensure the shaft inserted into the coupling is identical to L1 and L2 specified in the Installation Dimension Form, so the shaft and the coupling can fully contact with each other.

⑥. Please ensure the coupling's actual S dimension is within the S value specified in the Installation Dimension Form and the allowable error range in axial displacement. The allowable error range in axial displacement is based on the assumption that the eccentricity and the deflection are zero, please reduce the error through adjustment as much as possible.

⑦. When it is confirmed there is no compressing and pulling in axial direction, tighten the two clamp bolts. During tightening, please use torque wrench that has been calibrated, and follow the Locking Torque specified in the Installation Dimension Form for tightening.

REC 膜片联轴器 REC Diaphragm Coupling

型号说明 Model Coding

REC-080-0-A-25Z-30Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

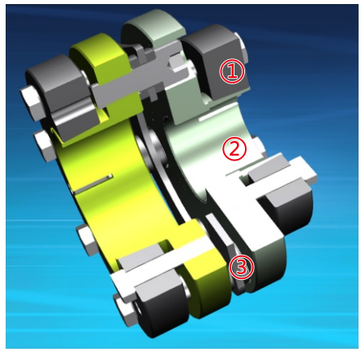
① 从动轴连接方式(胀紧)
② 孔径尺寸代码（从动轴）
③ 主动轴连接方式(胀紧)
④ 孔径尺寸代码（主动轴）
⑤ 产品结构系列（A小扭矩螺钉/B大扭矩铰制/C主轴型）
⑥ 产品结构代码1(O/T)
⑦ 规格代码
⑧ 种类代码

① Driven shaft's connection type (cinching)
② Hole diameter code (bigger shaft)
③ Driving shaft's connection type (cinching)
④ Hole diameter code (smaller shaft)
⑤ Product Structure code 2 (A/B/C)
⑥ Product Structure code 1(0: single diaphragm/ T: double diaphragm)
⑦ Model code
⑧ Category code

REC 膜片联轴器 REC Diaphragm Coupling

产品特点及应用场合 Product Feathers and Applications

产品概览 Product Overview



REC单膜片联轴器
REC Single Diaphragm Coupling

① 压环：采用优质结构钢，表面发黑处理；依据孔径不同，外径相应变化
Compression ring: high-quality structural steel is employed, the surface is blackening treated; based on different aperture, the outer diameter changes accordingly

② 半联轴节：采用优质结构钢，表面发黑处理；设计有锥套与压环配合抱紧传动轴
Half-coupling: high-quality structural steel is employed, the surface is blackening treated; taper sleeve and compression ring are designed to jointly hold the transmission shaft tightly

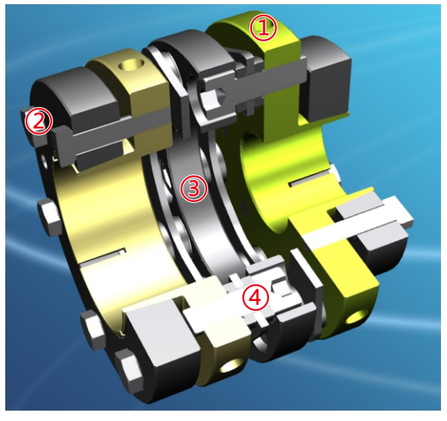
③ 膜片组：由若干优质不锈钢片通过垫圈、衬套等叠为一挠性组件，吸收轴安装误差，传递相应扭矩
Diaphragm group : the flexible component is stacked with a few high-quality stainless steel discs through washers and bush, etc., to absorb the shaft's installation error, and transmit corresponding torque

① 法兰外圆止动销孔：用于拧紧胀紧螺栓时，插入销轴限制联轴器转动
Stopper pin hole on the flange excircle: when tightening cinch bolt, insert the pin into the hole for restricting the coupling's rotation

② 胀紧螺栓：采用高强度经表面处理的螺栓，拧紧时需按规定扭矩交替锁紧（详见相关安装说明）
Cinch bolt: high strength bolts after surface treatment are used, during tightening, alternate locking should be carried out according to prescribed torque (see relevant installation instructions for details)

③ 中间体：双膜片联轴器独有部件，采用优质结构钢，表面发黑处理
Middle part: a unique part of double diaphragm coupling, high-quality structural steel is employed, the surface is blackening treated

④ 膜片组螺栓：采用高强度经表面处理的螺栓，出厂时已安装妥，请避免自行拆装
Bolt for diaphragm group: high strength bolts after surface treatment are used, installed before delivery, please do not install on your own



REC双膜片联轴器
REC Double Diaphragm Coupling

REC 膜片联轴器 REC Diaphragm Coupling

产品特点及应用场合 Product Feathers and Applications

产品概览 Product Overview

项目 Item		REC 单膜片联轴器 REC Single Diaphragm Coupling	REC 双膜片联轴器 REC Double Diaphragm Coupling
容许扭矩 Allowable Torque （N·m）		70~300	70~300
孔加工直径范围 Hole Machining Diam- eter Range (mm)		18~60	18~60
使用温度 Operation Temperatur （℃）		-30~+120	-30~+120
最大容许误差 Max. Allowable Error	径向 Radial （mm）	0.02	0.25~0.3
	角向 Angular （°）	1	2
	轴向 Axial （mm）	±0.5~±0.7	±1~±1.4

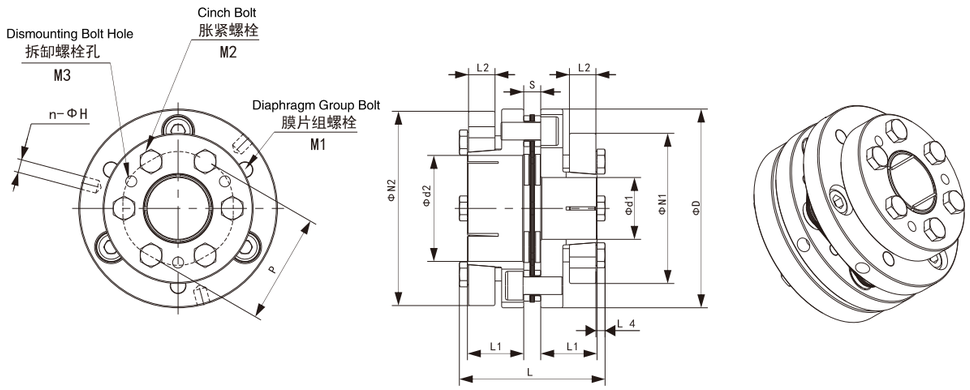
产品特点及应用场合 Product Features And Applications

该类产品非常适合于各类数控车床、加工中心的进给轴丝杆与电机间的联接。产品具有如下特点：
1、超高刚性。为用于机床进给轴开发的型号，扭转刚性高，可进行准确的轴旋转和超精密控制。
2、支持大直径的摩擦连接。与以往型号的摩擦连接相比，可支持大轴径。
3、膜片组螺栓采用合金钢内六角圆柱头螺钉
4、与传动轴之间采用胀套式联接方式。轴结构简单，减少了槽孔等应力集中部位；结构对称，可在不经特定动平衡处理下达到较高的平衡要求。
5、采用不锈钢材料制作挠性部件（膜片），具有结构紧凑，无背隙的特点，且能吸收两轴角向、轴向、径向（此项仅双膜片具有）误差。
6、产品出厂前采用专用冶具定心组装，确保了两端孔的原始同轴度。

The products are very suitable for the connection between the feed shaft lead screw and the motor for various CNC and machining center. The products have feathers below:
1.Ultrahigh rigidity. This type is developed for machine tool's feed shaft, with high torsional rigidity, accurate shaft rotation and ultra-precision control can be performed.
2.Big diameter frictional connection can be supported. Compared to previous types' frictional connection, it can be used for big diameter shaft.
3.The diaphragm group's bolts are alloy-steel hexagon cheese head screw bolts.
4.It is connected to the shaft with expansion sleeve. The shaft is simple in structure, which is to reduce stress concentration area on the slot; with symmetric structure, higher balance requirement can be met without special dynamic balance treatment.
5.The flexible component (diaphragms) are made of stainless steel material, with feathers such as compact structure, no back clearance, it can also absorb the two shafts' errors in angular, axial and radial (only for double diaphragm) direction.
6.Before deliver, centering assembling with special jig machine is carried out, which ensures holes original coaxiality on the two sides.

REC 膜片联轴器 REC Diaphragm Coupling

单膜片联轴器尺寸表 Dimension Form for Single Diaphragm Coupling



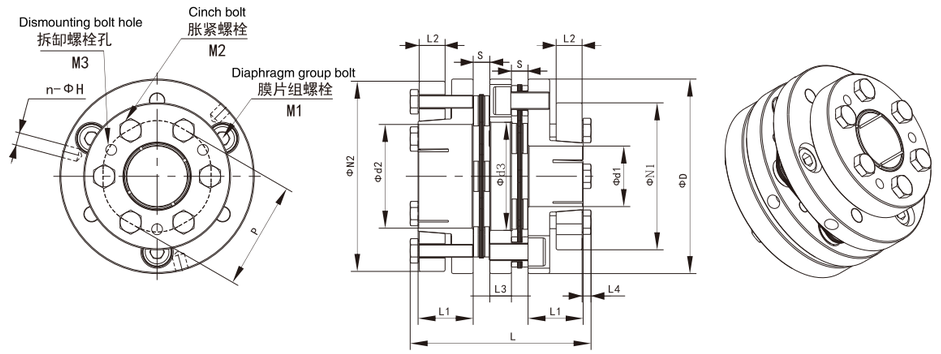
型号 Model	D	L	d1/d2	N1/N2	L1	L2	L4	S	P	n-ΦH	M1	M1锁紧力矩 Locking Torque	M2	M2锁紧力矩 Locking Torque	M3
REC-070-0-A	70	60.5	18、19	53	23.5	12	4	6.5	31	4-φ5.1	M6	14	4-M6	12	2-M6
			20、22、24、25	58											
			28、30	63											
			32、35	68											
REC-080-0-A	80	66.3	22、24、25	58	25.5	12	4	8.3	37	4-φ5.1	M8	34	4-M6	12	2-M6
			28、30	63											
			32、35	68											
REC-090-0-A	90	66	28	68	25.5	12	4	7.7	50	3-φ6.5	M8	34	6-M6	12	3-M6
			30、32、35	73											
			38、40	78											
			42、45	83											
			48	88											
REC-100-0-A	100	66	32、35	73	25.5	12	4	8	58	3-φ6.5	M8	34	6-M6	12	3-M6
			38、40	78											
			42、45	83											
			48、50、52	88											
			55	93											
			60	98											

注：1、表中各螺栓数量为单侧数量；
2、 表中锁紧力矩，依据：M1为12.9级螺钉、M2为10.9级螺栓核定。

Note:
1. The bolts' quantity in the form only refer to the bolts on one side;
2. The locking torque, determination basis: M1 is Grade 12.9 bolt, M2 is Grade 10.9 bolt

REC 膜片联轴器 REC Diaphragm Coupling

双膜片联轴器尺寸表 Dimension Form for Double Diaphragm Coupling



型号 Model	D	L	d1/d2	N1/N2	L1	L2	L3	d3	L4	S	P	n-ΦH	M1	M1锁紧力矩 Locking Torque	M2	M2锁紧力矩 Locking Torque	M3
REC-070-T-A	70	75	18、19	53	23.5	12	8	35	4	6.5	31	4-φ5.1	M6	14	4-M6	12	2-M6
			20、22、24、25	58													
			28、30	63													
			32、35	68													
REC-080-T-A	80	84.6	22、24、25	58	25.5	12	10	40	4	8.3	37	4-φ5.1	M8	34	4-M6	12	2-M6
			28、30	63													
			32、35	68													
REC-090-T-A	90	83.4	28	68	25.5	12	10	50	4	7.7	50	3-φ6.5	M8	34	6-M6	12	3-M6
			30、32、35	73													
			38、40	78													
			42、45	83													
			48	88													
REC-100-T-A	100	84	32、35	73	25.5	12	10	60	4	8	58	3-φ6.5	M8	34	6-M6	12	3-M6
			38、40	78													
			42、45	83													
			48、50、52	88													
			55	93													
			60	98													

注：1、表中各螺栓数量为单侧数量；
2、 表中锁紧力矩，依据：M1为12.9级螺钉、M2为10.9级螺栓核定。

Note:
1. The bolts' quantity in the form only refer to the bolts on one side;
2. The locking torque, determination basis: M1 is Grade 12.9 bolt, M2 is Grade 10.9 bolt

REC 膜片联轴器 REC Diaphragm Coupling

单膜片联轴器技术参数表 Technical Specification Form for Single Diaphragm Coupling

型号 Model	容许扭矩 Allowable Torque Tkmax (N·m)	最高转速 Max. Rotating Speed (rpm)	扭转刚度 Torsional Rigidity (N·m/rad)	轴向刚度 Axial Rigidity (N/mm)	最大允许误差 Max. Allowable Error			转动惯量 Rotating Inertia (kg·m²)	质量 Mass (kg)
					径向 (mm)	角向 (°)	轴向 (mm)		
REC–070–0–A	70	18000	60000	105	0.02	1	±0.5	0.55×10^{-3}	0.88
REC–080–0–A	130	17000	64000	96	0.02	1	±0.5	0.93×10^{-3}	1.20
REC–090–0–A	200	15000	140000	320	0.02	1	±0.6	1.73×10^{-3}	1.57
REC–100–0–A	300	13000	160000	360	0.02	1	±0.7	2.52×10^{-3}	1.78

注：
1、表中转动惯量和质量是在一端孔径为最大值，一端孔径为最小值时的值。
2、表中扭转刚度为膜片组扭转刚度的理论值。
3、最高转速为离心力、强度等因素校核所得，未考虑动平衡。
4、表中各向允许误差是相互关联的，不能同时达到最大值。如：角向误差和轴向误差同时存在，当角向误达到最大允许值的70%时，则轴向误差值不能超过最大允许值的30%

Note:
1. In the table, the values of rotational inertia and mass are measured when the hole diameter at one side is at its maximum, and the other side at its minimum.
2. In the table, the torsional rigidity is the diaphragm group's theoretical value for torsional rigidity.
3. The maximum rotating speed has taken into consideration the factors such as centrifugal force, rigidity, etc., the dynamic balance is not considered.
4. In the table, the allowable errors in each direction are mutually relevant, they can not reach the maximum value at the same time. Example: the angular error and axial error can exist at the same time, when the angular value reaches 70% of the maximum allowable value, then the axial error is not allowed to go above 30% of the maximum allowable value.

双膜片联轴器技术参数表 Technical Specification Form for Double Diaphragm Coupling

型号 Model	容许扭矩 Allowable Torque Tkmax (N·m)	最高转速 Max. Rotating Speed (rpm)	扭转刚度 Torsional Rigidity (N·m/rad)	轴向刚度 Axial Rigidity (N/mm)	最大允许误差 Max. Allowable Error			转动惯量 Rotating Inertia (kg·m²)	质量 Mass (kg)
					径向 (mm)	角向 (°)	轴向 (mm)		
REC–070–T–A	70	14000	30000	55	0.25	2	±1	0.70×10^{-3}	1.08
REC–080–T–A	130	13000	32000	50	0.3	2	±1	1.26×10^{-3}	1.54
REC–090–T–A	200	12000	70000	160	0.3	2	±1.2	2.26×10^{-3}	1.98
REC–100–T–A	300	10000	80000	180	0.3	2	±1.4	3.28×10^{-3}	2.26

注：
1、表中转动惯量和质量是在一端孔径为最大值，一端孔径为最小值时的值。
2、表中扭转刚度为膜片组扭转刚度的理论值。
3、最高转速为离心力、强度等因素校核所得，未考虑动平衡。
4、表中各向允许误差是相互关联的，不能同时达到最大值。如：角向误差和轴向误差同时存在，当角向误达到最大允许值的70%时，则轴向误差值不能超过最大允许值的30%

Note:
1. In the table, the values of rotational inertia and mass are measured when the hole diameter at one side is at its maximum, and the other side at its minimum.
2. In the table, the torsional rigidity is the diaphragm group's theoretical value for torsional rigidity.
3. The maximum rotating speed has taken into consideration the factors such as centrifugal force, rigidity, etc., the dynamic balance is not considered.
4. In the table, the allowable errors in each direction are mutually relevant, they can not reach the maximum value at the same time. Example: the angular error and axial error can exist at the same time, when the angular value reaches 70% of the maximum allowable value, then the axial error is not allowed to go above 30% of the maximum allowable value.

REC 膜片联轴器 REC Diaphragm Coupling

选型步骤 Model Selection Steps

1、伺服、步进、变频电机用REC联轴器扭矩校核
①、确定伺服、步进、变频电机的最大扭矩Tm：
Tm一般为伺服、步进、变频电机额定扭矩的3倍
②、计算联轴器所需容许扭矩（Tn）
Tn=Tm·1.5
Tn——联轴器所需容许扭矩，N·m
Tm——伺服、步进、变频电机标称最大扭矩，N·m
③、依据Tn值初步确定联轴器基本规格，确保所选联轴器容许扭矩Tkmax≥Tn
2、普通电机或驱动设备用REC联轴器扭矩校核
①、计算联轴器所需传递的扭矩（T）
T=9550·PW/n
T——联轴器需传递扭矩，N·m
PW——电机（或其他驱动机）额定功率，kW
n——电机（或其他驱动机）实际使用转速，r/min（rpm）
②、计算联轴器所需容许扭矩（Tn）
Tn=T·K
Tn——联轴器所需容许扭矩，N·m
T——联轴器需传递扭矩，N·m
K——工况系数，①恒定载荷：K=1、②小变动载荷：K=1.25、③中等变动载荷：K=1.75、④大变动载荷：K=2.25
③、依据Tn值初步确定联轴器基本规格，确保所选联轴器容许扭矩Tkmax≥Tn
3、对于有高的交变扭矩存在的场合（如存在：柴汽油发动机、活塞式压缩机、柱塞泵、发电机等），请联系瑞迪工程师协助计算、选型。
4、确定安装、使用时联轴器的径向、角向、轴向偏差不超过《技术参数表》中的各项限定值，多种偏差同时存在时，允差应按比例减少。理论上单膜片联轴器不能承受径向偏差，如使用中有不可避免的径向偏差存在，请选择双膜片联轴器。

注：
上述Tkmax值请在《技术参数表》中查阅、获取。

1. Use REC coupling to carry out torque checking for servo motor, stepping motor and variable frequency motor.
①. Determine the maximum torque Tm for servo motor, stepping motor and variable frequency motor:
Tm is usually 3 times of the rated torque of servo motor, stepping motor and variable frequency motor
②. Calculate the needed allowable torque for the coupling (Tn)
Tn=Tm·1.5
Tn——the needed allowable torque for the coupling, N·m
Tm——nominal maximum torque for servo motor, stepping motor and variable frequency motor
③. Based on Tn,the coupling's basic specification is primarily determined, which is to ensure the selected coupling's allowable torque Tkmax≥Tn
2. Use REC coupling to carry out torque checking for common motors and driving devices.①. Calculate the needed transmitted torque for the coupling (T)
T=9550·PW/n
T——the needed transmitted torque for the coupling, N·m
PW——the rated torque for motor(or other driving devices), kW
n——actual rotating speed for motor(or other driving devices), r/min (rpm)
②. Calculate the needed transmitted torque for the coupling (Tn)
Tn=T·K
Tn——the needed allowable torque for the coupling, N·m
T——the needed transmitted torque for the coupling, N·m
K——working condition coefficient, ① constant load: K=1, ②small fluctuating load: K=1.25, ③ moderate fluctuating load: K=1.75, ④ big fluctuating load: K=2.25
③ Based on Tn, the coupling's basic specification is primarily determined, which is to ensure the selected coupling's allowable torque Tkmax≥Tn
3. For the occasions with high alternate torque (for example: diesel fuel engine, piston compressor, plunger pump, generator, etc.), please contact the engineers of REACH for calculation and model selection.
4. During installation and operation of the coupling, ensure the errors in in radial, angular, and axial directions not go above every limiting value specified in the Technical Specification Form, when the errors exist at the same time, the allowable errors shall be reduced proportionally. In theory, the single diaphragm coupling can not sustain radial error, during operation, if there is unavoidable radial error, please select the double diaphragm coupling.

Note:
please refer to the Technical Specification Form for checking and obtaining the aforesaid Tkmax value.

REC 膜片联轴器 REC Diaphragm Coupling

安装维护说明 Installation and Maintenance Instructions

1、安装使用前，请确认以下内容：
①该产品是否与所订购产品一致；
②该产品有无在运输过程中存在损伤
2、安全注意事项：
①、环境及相关装置
a、危险事项：
● 旋转的联轴器可能会对人体造成伤害，请为其设置安全罩，并在安全罩上设置打开急停保护装置
● 请勿将RIC产品应用于有易燃、易爆液体或气体存在或泄漏的地方
● 建议电机或其他驱动装置配置安全刹车装置
b、注意事项
● 请勿该类联轴器产品用于存在化学泄漏、高湿度、冷热温度变化大的场合
②、装配作业
a、危险事项：
● 螺钉的拧紧力矩对产品的使用性能和安全非常重要，请务必按《安装尺寸》表中规定力矩拧紧螺钉
● 安装、拆卸联轴器产品时，必须确保机器已经停转，并已确实切断相关电源
b、注意事项
● 安装联轴器前，请调整两端轴的同轴度，使同轴度误差小于0.02mm（使用RIC单膜片联轴器时）或小于0.05mm（使用RIC双膜片联轴器时）；同轴度误差过大，可能导致装置故障或损坏。
● 请使用本公司提供或与之性能等级相同的螺钉，以免造成产品损坏。
● 请配戴手套等必要的防护装备，以免在拆、装产品时造成人身伤害
● 在搬运、提升重物时，请使用必要的起重设备
③、使用
a、危险事项
● 请勿超出《技术参数表》中规定的最高转速使用联轴器产品，否则可能造成极大振动并损坏产品
● 请勿接触外露的旋转部件，以免造成人身伤害
● 请勿使联轴器两端轴的对中误差过大或超出产品《技术参数表》中允许值，以免使联轴器承受过大附加载荷并对联轴器及相关装置造成损害
b、注意事项
● 请勿使扭矩超过产品的允许值
● 当有异常的噪音或振动产生时，应检查、确认安装是否正确无误；长期的振动可能造成螺钉松动或失效，从而导致整个装置故障。
● 在异常狭窄的场合，应考虑因散热不良引起的温升对产品性能的影响
④、其他
a、危险事项
● 请确保产品不被小孩碰到或玩耍
b、注意事项
● 禁止私自拆解我公司产品，废弃物交专门机构回收

1. Before installation and operation, please confirm the following:
①. If the product is as same as the product ordered;
②. If there is any damage occurred to the product during transportation.
2. Safety precautions:
①. Ambient conditions and relevant devices
i, Hazard notes:
● Rotating couplings may cause harm to human being, please set up safety guard for the coupling, and set up starter on the safety guard for emergency stop protection
● Please avoid operating RIC products close to places with inflammable, explosive liquid or gas or leakage of such
● It is recommended that the motor or other driving devices are equipped with safety brake device
ii, matters needing attention
● This type of couplings are not allowed to operate under the conditions with chemical leakage, high humidity, or big temperature variation
②. Assembling work
i, Hazard notes:
● The bolt's tightening torque is very important to the product's performance and safety, please be sure the bolts are tightened according to the specified torques in the Mounting Dimensions
● When install or dismount the couplings, ensure the machine is already stopped, and relevant power sources are cut off
ii, Matters needing attention
● Before installing the coupling, please ensure the coaxiality error of the shafts on the two sides is less than 0.02mm(for RIC single diaphragm coupling) or less than 0.05mm(for RIC double diaphragm coupling); high coaxiality error can cause failure or damage to the devices.
● Please use bolts provided by REACH or of the same performance and grade, so as to avoid damage to the products.
● Please wear necessary protection devices such as gloves etc, so as to avoid any personal injury during dismounting and installation
● When haul or lift heavy objects, please use necessary hoisting equipment
③. Operation
i, Hazard notes:
● The couplings are not allowed to operate above the maximum rotating speed specified in the Technical Specification Form, so as to avoid over vibration and damage to the products
● Please touch exposed rotating parts, so as to avoid personal injury
● Please prevent the centring error of the shafts on the two sides from being too big or going beyond the allowable value specified in the Technical Specification Form, so as to avoid too much additional load applied on the coupling and causing damage to relevant devices
ii, Matters needing attention
● Please do not make the torque go beyond the product's allowable value
● when abnormal noise or vibration occurs, check and confirm if the installation is right; long time vibration may cause the bolts' loosening or failures, which leads to the whole equipment's failure.
● When operate in narrow space, is shall be considered that poor heat dissipation may cause the temperature to go up and influence the product's performance
④. Other matters
i, Hazard notes:
● Please ensure the products are not touched or played by children
ii, Matters needing attention
● Disassembling our company's products without permission is forbidden, rejected materials shall be sent to special agency for recycling

REC 膜片联轴器 REC Diaphragm Coupling

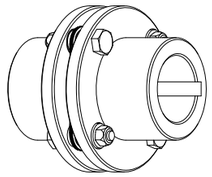
安装维护说明 Installation and Maintenance Instructions

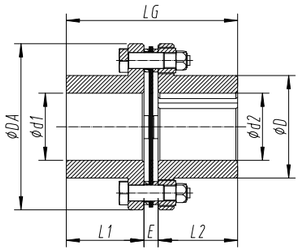
3、安装使用：
(1) 先旋松联轴器的胀紧螺栓，并清除干净轴及联轴器孔内的锈迹、灰尘和油渍等。
(2) 将联轴器套入动力输入轴（数控机床为伺服电机轴）。套入时，请勿在联轴器上施加过大的拉、压力。
(3) 联轴器套入电机轴的长度为半联轴节的全长（L1尺寸），且不得与膜片组及另一边的轴干涉。
(4) 保持联轴器位置不动，轻轻拧紧各胀紧螺栓（建议直接用手拧紧）。
(5) 将千分表表座固定在基础上，千分表表针与电机轴一侧的联轴器法兰外圆或端面接触，在用手缓慢旋转电动机轴的同时，通过锤击等方法调整使千分表跳动尽可能接近零。
(6) 锤击调整的同时按顺序拧紧胀紧螺栓，最后使用经过校准的扭矩扳手交替拧紧胀紧螺栓至《尺寸表》中M2锁紧力矩的规定值。拧紧时可利用法兰外圆的孔限制联轴器的转动。
(7) 再次确认联轴器电动机轴端的胀紧螺栓已按规定的转矩拧紧，且跳动值接近0。
(8) 将联轴器另一端孔套入动力输出轴，套入长度为L1，且不得与膜片组及另一边的轴干涉。再将千分表表座固定在电机轴上，千分表表针与输出轴接触，调整电机轴或输出轴相对位置，同时缓慢转动电机轴，使表针跳动接近0，之后固定电机座和输出轴。
(9) 移动输出轴侧半联轴节，调整《尺寸表》中S尺寸，使实际值与S值的偏差在《技术参数表》允许的轴向误差范围内。（当有偏心、偏角误差存在时，此轴向误差允许值应按比例减少。通常应将此轴向误差尽量调小。）
(10) 按电动机轴一侧胀紧螺栓锁紧的方法（第（4）~（7）），同样的将输出轴侧的胀紧螺栓锁紧。
(11) 为防止胀紧螺栓在使用过程中产生松动，建议运行一段时间后，再次按规定扭矩、正确的顺序拧紧各胀紧螺栓。
4、拆卸
(1) 联轴器只有在未承受转矩以及轴向负载的情况下进行拆卸。使用安全离合器或制动器时，请确认这些装置未处于工作状态，以确保联轴器未承受转矩。
(2) 将所有的胀紧螺栓拧松，直至螺栓头与压环间的间隙约为2mm左右。
(3) 取下(2) 中松开的胀紧螺栓中的2~3 根，拧入压环上的拆卸螺栓孔内，按顺序慢慢地拧紧直至胀紧连接解除。（轴向没有螺栓插入空间时，可用一字螺丝刀的前端等扁平状工具插入压环与法兰之间，轴向敲击或利用杠杆原理解除胀紧连接。）

3. Installation and operation:
(1) First loose the coupling's cinch bolts, and remove the rust, dust or oil stains etc. on the shafts or inside the holes of the coupling.
(2) Sleeve the coupling on the power input shaft(servo motor shaft for CNC). During sleeving, do not pull or push the coupling too hard.
(3) The length of coupling sleeved on the motor shaft is the whole length of the half-coupling(L1 dimension), and it shall not interfere with the diaphragm group and the shaft on the other side.
(4) Keep the coupling still, gently tighten every cinch bolt(direct hand tightening is recommended).
(5) Fix the dial indicator's stand on the base, the dial indicator's hand touches the flange's excircle or end face of the coupling on the side of the motor shaft, rotate slowly the motor shaft with hands, in the mean time, use methods such as hammer striking to make the dial indicator' beating close to 0 as much as possible.
(6) During adjustment by hammer striking, tighten the cinch bolts in order, finally use calibrated torque wrench to alternately tighten the cinch bolts to the specified values of M2 locking torque in the Dimension Form. During tightening, the hole on the flange's excircle can be used to restrict the coupling's rotation.
(7) Confirm again that the coupling's cinch bolts on the motor shaft side have been tightened according to specified torques, and the jumping value is close to 0.
(8) Sleeve the coupling's other side on the power output shaft, the sleeving length is L1, and it shall not interfere with the diaphragm group and the shaft on the other side. Then fix the dial indicator's stand on the motor shaft, the dial indicator's hand touches the output shaft, adjust the motor shaft or output shaft's opposite position, in the mean time, slowly rotate the motor shaft, make the dial indicator hand's jumping close to 0, then fix the motor base and the output shaft.
(9) Move the half-coupling on the output shaft side, adjust S dimension in Dimension Form, make the difference of the actual value and the S value in the axial error scope provided in the Technical Specification Form. (when eccentricity or deflection exists, the axial error shall be reduced proportionally. Usually the axial error shall be adjusted as small as possible.)
(10) In the same way as the cinch bolts on the motor shaft side are tightened(from (4) to (7)), tighten the cinch bolts on the output shaft side.
(11) To avoid the cinch bolts' loosening during operation, it is recommended that, after operation for some time, re-tighten the cinch bolts according to specified torques and in right order.
4. Dismounting
(1) The coupling can only be dismounted without sustaining torque or axial load. When using safety clutch or brake, please make sure the devices are not in working status, so as to make sure the coupling is not bearing any torque.
(2) Loosen all the cinch bolts, until the gap between the bolt head and the compression ring is about 2mm.
(3) Take down 2 to 3 pieces of cinch bolts already loosened, screw into the dismounting bolt holes on the compression ring, slowly tighten the bolts in order until the connection is disengaged. (if not space for screwing in the bolt in axial direction, the front end of the slot type screwdriver or other similar tools can be inserted in between the compression ring and the flange, strike in axial direction or disengage the connection in lever principle.)

REACH膜片联轴器 REACH Diaphragm Couplings

RDC系列 RDC Series





- 单节式结构
- 具有角向和轴向纠偏能力
- 扭向刚性好
- 结构紧凑
- Single-section structure
- Angular and anxial deviation correction functions
- High torsional stiffness
- Compact structure

A型结构尺寸表 单位：mm Dimension Table of A-type Unit: mm

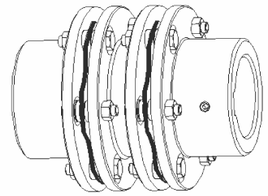
规 格 Size	d1 max	d2 max	DA	D	LG	L1	E	L2
20	20	20	56	32	45	20	5	20
25	25	25	68	40	56	25	6	25
35	35	35	82	54	86	40	6	40
38	38	38	94	58	98	45	8	45
42	42	42	104	68	100	45	10	45
50	50	50	126	78	121	55	11	55
60	60	60	138	88	121	55	11	55
70	70	70	156	102	141	65	11	65
80	80	80	179	117	164	75	14	75
85	85	85	191	123	175	80	15	80
90	90	90	210	132	175	80	15	80
105	105	105	225	147	200	90	20	90
115	115	115	265	163	223	100	23	100

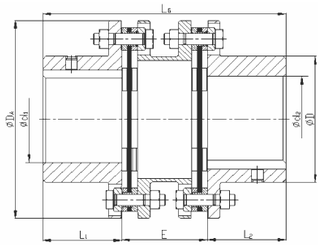
A型性能参数 Performance Parameters of A-type

规 格 Size	额定扭矩 Rated Torque (Nm)	最高转速 Max. Rotation Speed (r/min)	角向偏差 (度) Angular Deviation(°)	轴向偏差 Axial Deviation (mm)	径向偏差 Radial Deviation (mm)	转动惯量 Moment of Inertia (kg.m^2)	膜片扭向性刚度 Tornisional Stiffness of Diaphragm (10^6 Nm/rad)
20	15	20000	1.0	0.6	—	0.0001	0.017
25	30	16000	1.0	0.8	—	0.00026	0.028
35	60	13000	1.0	1.0	—	0.0008	0.092
38	120	12000	1.0	1.2	—	0.0016	0.198
42	180	10000	1.0	1.4	—	0.0027	0.282
50	330	8000	1.0	1.6	—	0.0061	0.501
60	690	6700	1.3	1.0	—	0.0082	0.56
70	1100	5900	1.3	1.1	—	0.0152	0.90
80	1500	5100	1.3	1.3	—	0.029	1.14
85	2400	4750	1.3	1.3	—	0.042	1.52
90	4500	4300	1.0	1.0	—	0.064	1.94
105	5100	4000	1.0	1.2	—	0.093	2.54
115	9000	3400	1.0	1.4	—	0.199	3.48

REACH膜片联轴器 REACH Diaphragm Couplings

RDC系列 RDC Series





1 紧凑的双节式结构
2 纠偏能力强
3 可替换曲面齿连轴器
1 Compact double-section structure
2 Strong deviation correction function
3 Able to replace curved-tooth couplings

B型结构尺寸表 单位：mm Dimension Table of B-type Unit: mm

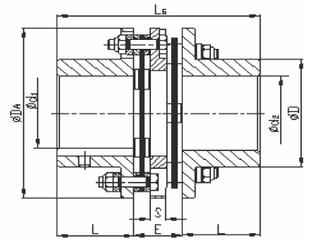
规格Size	d1 max	d2 max	DA	D	LG	L1	E	L2
20	20	20	56	32	—	20	—	20
25	25	25	68	40	—	25	—	25
35	35	35	82	54	—	40	—	40
38	38	38	94	58	—	45	—	45
42	42	42	104	68	—	45	—	45
50	50	50	126	78	—	55	—	55
60	60	60	138	88	170	55	60	55
70	70	70	156	102	200	65	70	65
80	80	80	179	117	233	75	83	75
85	85	85	191	123	246	80	86	80
90	90	90	210	132	251	80	91	80
105	105	105	225	147	281	90	101	90
115	115	115	265	163	309	100	109	100

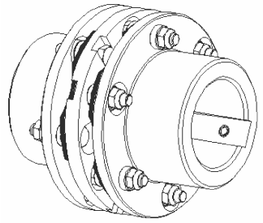
B型性能参数Performance Parameters of B-type

规 格 Size	额定扭矩 Rated Torque (Nm)	最高转速 Max. Rotation Speed (r/min)	角向偏差 (度) Angular Deviation(o)	轴向偏差 Axial Deviation (mm)	径向偏差 Radial Deviation (mm)	转动惯量 Moment of Inertia (kg.m^2)	膜片扭向性刚度 Tornisional Stiffness of Diaphragm (10^6 Nm/rad)
20	15	20000	1.0	1.2	0.1	—	0.0085
25	30	16000	1.0	1.6	0.2	—	0.014
35	60	13000	1.0	2.0	0.2	—	0.046
38	120	12000	1.0	2.4	0.3	—	0.099
42	180	10000	1.0	2.8	0.3	—	0.141
50	330	8000	1.0	3.2	0.4	—	0.2505
60	690	6700	1.3	2.0	1.0	0.012	0.28
70	1100	5900	1.3	2.2	1.2	0.022	0.45
80	1500	5100	1.3	2.6	1.5	0.042	0.57
85	2400	4750	1.3	2.3	1.5	0.064	0.76
90	4500	4300	1.0	2.0	1.4	0.103	0.97
105	5100	4000	1.0	2.4	1.6	0.143	1.27
115	9000	3400	1.0	2.8	1.3	0.333	1.74

REACH膜片联轴器 REACH Diaphragm Couplings

RDC系列 RDC Series





- 紧凑的双节式结构
- 纠偏能力强
- 可替换曲面齿连轴器

- Compact double-section structure
- Strong deviation correction function
- Can be used to replace curved-tooth couplings

C型结构尺寸表 单位：mm Dimension Table of C-type Unit: mm

规格Size	d1 max	d2 max	DA	D	LG	L1	E	L2	S
20	20	20	56	32	55	20	15	20	5
25	25	25	68	40	68	25	18	25	6
35	35	35	82	54	98	40	18	40	6
38	38	38	94	58	114	45	24	45	8
42	42	42	104	68	118	45	28	45	8
50	50	50	126	78	142	55	32	55	10
60	60	60	138	88	144	55	34	55	12
70	70	70	156	102	164	65	34	65	12

C型性能参数 Performance Parameters of C-type

规 格 Size	额定扭矩 Rated Torque (Nm)	最高转速 Max. Rotation Speed (r/min)	角向偏差 (度) Angular Deviation(o)	轴向偏差 Axial Deviation (mm)	径向偏差 Radial Deviation (mm)	转动惯量 Moment of Inertia (kg.m^2)	膜片扭向性刚度 Tornisional Stiffness of Diaphragm (10^6 Nm/rad)
20	15	20000	1.0	1.2	0.1	0.0001	0.0085
25	30	16000	1.0	1.6	0.2	0.00025	0.014
35	60	13000	1.0	2.0	0.2	0.0085	0.046
38	120	12000	1.0	2.4	0.3	0.0015	0.099
42	180	10000	1.0	2.8	0.3	0.0024	0.141
50	330	8000	1.0	3.2	0.4	0.008	0.2505
60	690	6700	1.3	2.0	1.0	0.01	0.28
70	1100	5900	1.3	2.2	1.2	0.02	0.45

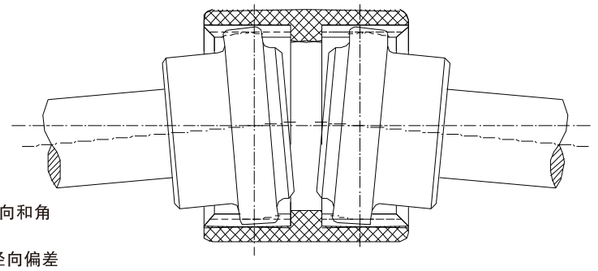
定货号码示例Order Example: RDC-35-A-35Jx28J

RDC-35-A	35J	28J
REACH膜片联轴器 35规格A型 REACH Diaphragm Couplings Size 35 A-type	轴套孔直径为35,键槽连接形式 The diameter of bore in the hub is 35 Connected by keyway	轴套孔直径为35,键槽连接形式 The diameter of bore in the hub is 35 Keyway Connection

连接形式说明: J 表示键槽连接形式 Z 表示键槽胀套连接形式
Explanation of the Connection:"J"means the keyway connection and, "z"refers to the connection between the keyway and locking devices

RGF系列 RGF Series REACH曲面齿联轴器 REACH Curved-tooth Coupling

概述Summarize



REACH联轴器是用于柔性传动,在轴向、径向和角向有很强的纠偏能力.

由于双曲面齿的结构能有效地避免因角向和径向偏差造成局部应力集中的现象,因而REACH联轴器几乎不会产生磨损.

直齿联轴器在有安装误差的情况下,齿接触表面易生应力集中现象,加快了磨损.

双曲面齿联轴器在发生角向、径向安装偏差时,较大的齿接触面而避免了应力集中.

钢质轴套和尼龙套的材料配合保证了在连续传动中齿接触面之间的摩擦力非常小,不用维护.

由于REACH联轴器是双节式结构,角向和径向误差产生的应力可以忽略,角速度不会出现周期性波动.

REACH联轴器可以适用于水平和垂直安装,不需要任何特殊工具.

REACH Couplings are perfect for flexible transmission and good at correcting axial, radial and angular misalignments.
The double curved-tooth avoid concentrated partial stress effectively generated by angualr and raidl misalignments. With this function, REACH's couplings hardly generate wear.
If the straight-tooth coupling is installed in error, the stress might be concentrated in the tooth-contacted surface and hereby speed up the wear.
Double curved tooth couplings avoid stress concentration upon the larger tooth-contacted surface while an angular and radial installation deviation occurs.
The steel shaft sleeve combines with nylon sleeve to achieve pretty small friction between tooth-contacted surfaces in continual transmission and hereby without any maintenance.

Thanks to REACH's design on double-section structure, the stress generated by angular and radial deviation can be neglected; meanwhile there would be no periodical fluctuation in angular velocity.

REACH coupling can be installed horizontally and vertically without using any special tool.

尼龙齿套具有以下特性:

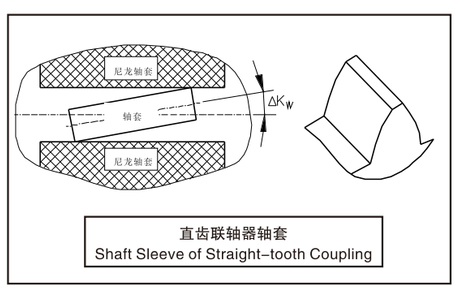
- 很好的机械性能
- 刚度高
- 耐高温(+100℃)
- 低温不脆化
- 良好的滑动, 摩擦特性
- 良好的电绝缘特性
- 耐化学腐蚀
- 加工精度高
- REACH尼龙齿套的耐磨性能:

尼龙复合材料(晶体结构)外表光滑、坚硬,有韧性，具有高热稳定性,并且可以耐润滑剂、燃料、液压油、溶剂等腐蚀.是生产联轴器的理想材料.金属部件间在无润滑相互运动时会相互磨损,而光滑的尼龙和钢之间即使没有润滑和维护也不会磨损。

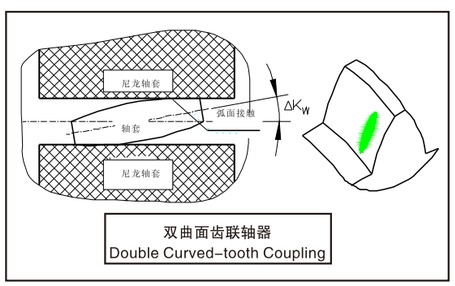
Characters of Nylon-sleeve

- Excellent mechanical property
- High stiffness
- High temperature resistance (+100℃)
- No embrittlement at low temperature
- Excellent sliding and friction property
- Excellent electrical insulation
- Chemical corrosion resistance
- High machining precision
- Wear-resistance of REACH Nylon-gear Sleeve

Nylon composite material (crystal structure) is an ideal material of coupling for its appearance with the character of smoothness, hardness and flexibility and high heat-stability and resistance to corrosion generated by lubricant, fuel, hydraulic fluid and solvents, etc.. Generally, the wear will occur when the metal parts move towards its counterpart, but no wear occurs between the smooth Nylon and metal part, even there is no lubricant and maintenance.



直齿联轴器轴套
Shaft Sleeve of Straight-tooth Coupling



双曲面齿联轴器
Double Curved-tooth Coupling