BONENG

GA梅花形弹性联轴器

GA torsionally flexible jaw-type couplings



GA系列梅花形弹性联轴器

GA torsionally flexible jaw-type couplings

Modified date 03/2026
Selection Sample C05.0007-CN

BONENG

Boneng Transmission

Boneng Transmission enhances reliable, accurate, efficient and intelligent operation in the industry

控制器/驱动器/马达
/齿轮马达/齿轮箱

Controller/ Drive/ Motor/
Gearmotor/ Gearbox

GA梅花形弹性联轴器

Torsionally Flexible jaw-type couplings



- 结构尺寸小、重量轻、传递扭矩高
- 能有效改善机械的运行质量和稳定性
- 能使传动时的振动得到缓冲，并吸收由动力机的不均匀运转所产生的冲击
- 最大扭转角均能达到5°
- 可水平安装，也可立式安装

- Small，light and high torque transmission
- Improve the operation level and stability.
- Slow drive vibration and absorb impact of running machine.
- Maximum torsion angle up to 5°
- Can be in horizontal or vertical installation.

BONENG

产品广泛应用于电力、煤炭、水泥、冶金、港口、农业、船舶、起重、环保、舞台、物流、纺织、造纸、轻工、塑料等各个领域。

Products are widely used in electric power, coal, cement, metallurgy, ports, agriculture, ships, lifting, environmental protection, stage, logistics, textile, papermaking, light industry, plastics and other fields.

博能传动公司总部和各大区域的技术专家以及各区域办事处的应用工程师、售后服务技师竭诚为您提供全面的技术咨询和完善的服务。

Technical experts from the headquarters of Boneng Transmission Company and major regions, as well as application engineers and after-sales service technicians of various regional offices are dedicated to providing you with comprehensive technical advice and perfect services.

ISO9001

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注意事项：

- 样本中的结构示意图、外形图及其他附图只属范例，无严格比例要求。（未注尺寸单位均为mm）。
- 所注重量仅为平均值，并不具有约束力。

⚠必须严格遵守以下各项：

- 为防止意外事故发生，所有旋转部件均按照使用者所在国家和地区的安全规范由购置方加罩保护。
- 试车之前必须认真阅读使用说明书。

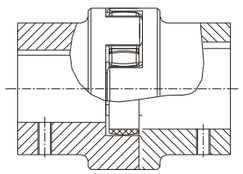
Notes:

- The structure scheme,appearance diagram and other attached diagrams in sample are examples,there is no strict proportion requirement.(The unmarked dimension units are mm).
- The marked weight is average value, it has no constraint force.

⚠The following items must be strictly observed:

- To prevent accidents,all the rotation parts are added with protective covers by the purchaser according to the safety regulations of the nation and region.
- The instruction book must be read carefully before the test run.

1.结构示意图 1.Sectional Drawings



GA

BONENG

2.型号表示方法 2.Type Designation

GA 55 - Φ40 / Φ45

梅花形弹性联轴器 Type

联轴器规格 Size

成品孔径 Finish bore

成品孔径 Finish bore

3.GA梅花形弹性联轴器

3.GA Torsionally flexible jaw-type couplings

3.1 选型及举例:

3.1 Coupling selection and example

序号 Steps	说明 Specification	代号 Symbol	参数计算 Calculate parameter				
1	被驱动设备系数 Driven machine factor	f_1	负荷性质 Load characteristic	每天使用时间(小时)Operating time(h/d)			
				≤2	2-10	10-24	
			均匀负载 Uniform	1.00	1.25	1.50	
			一般冲击 Moderate	1.25	1.50	2.00	
			强烈冲击 Heavy	1.50	1.75	2.25	
2	启动频率系数 Starting frequency factor	f_Z	启动频率(次/小时) Starting frequency(T/h)	0-1	1-30	30-60	60-200
			f_Z	1.0	1.2	1.3	1.5
3	环境温度系数 Ambient temperature factor	f_t	环境温度 Ambient temperature	-10℃~+30℃	+30℃~+40℃	+40℃~+60℃	+60℃~+80℃
			f_t	1	1.2	1.4	1.8
4	许用输入转速 Permissible input speed	n_1	$n_1 \leq n_{1max}$ 详见联轴器基本参数表 See the table oftechnical data				
5	计算扭矩 Driven machine factor	T_n	$T_n=9550 \cdot P_1/n$ 或者其他驱动扭矩数据 or other torque data of driving side				
6	确认规格 Driven machine factor	T_{2N}	$T_{2N} \geq T_n \cdot f_1 \cdot f_z \cdot f_t$ 根据计算扭矩必须小于联轴器许用额定扭矩的原则选择联轴器规格，校对轴孔是否适合。 Select the type ofthe coupling and check the finish hole according to the principle which calculated torque must be less than the permissible norminal torque.				
7	特殊环境条件 Special ambient conditions	/	高温、低温、灰尘多，化学作用 (例:酸碱等),露天 (直接日照、冰、水淋等),请咨询。 For applications in extreme conditions such as high temperature, low temperature,dusty place Chemicalreaction (acid, alkali etc), open field (Sunshine, ice rain etc)Please consult Boneng				

选型举例

已知条件:

1、输入功率P1=30kw,输入转速n1=1470r/min;

2、负荷性质为一般冲击,工作8小时/天,启动频率为10次/小时,环境温度为60°C下工作,

3、轴孔为ϕ55/ϕ60

选型步骤

1、根据负荷性质及启动频率可得出被驱动设备系数f1=1.5，启动频率系数fz=1.2，环境温度系数ft=1.4;

2、计算扭矩:

Tn=9550·P1/n=9550·30/1470=195N·m;

3、校核扭矩:

T2N>Tn·fl·fzft=195·1.5·1.2-1.4=491.4N·m查基本参数表,T2N=625>491.4N·m

选规格为GA65:

4、校对轴孔D:适合

确定联轴器型号为GA65-ϕ55/ϕ60。

Selection example

Known Criteria:

1.Input power P1=30kW, input speed n1= 1470rpm

2.Load characteristic is moderate, working for 8h/ day, starting frequency 10 times/hour, ambient te -mperature <60°C

3.Finish bore ϕ55/ϕ60

Selection steps:

1.According to load characteristic and starting frequency.we can arrive at: fl=1.5,fz=1.2,ft=1.4

2. Calculate rated torque of driving side:

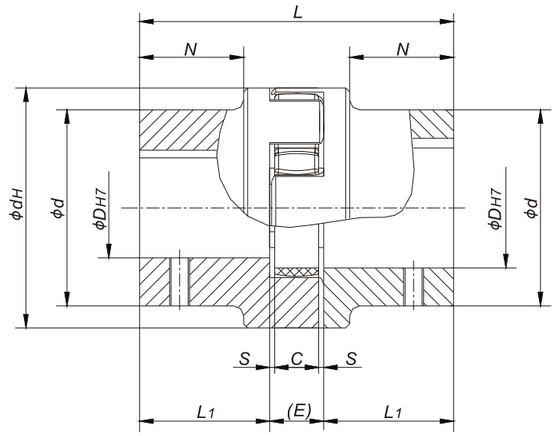
Tn=9550·P1/n=9550·30/1470=195N·m

3.Check norminal torque of coupling: T2N>Tn*f1·fz·ft=195·1.5·1.2·1.4=491.4N·m,check up the technical data table, T2N=625>491.4N·m select GA65.

4.Check finish bore D:Ok (Acceptable)

Choose:GA65-ϕ55/ϕ60

3.2 基本参数表　　3.2 Technical data



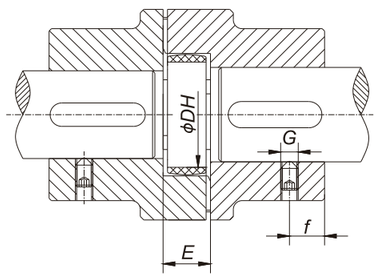
Size	T2N (N • m)	n1max (rpm)	D Finish bore	d	dH	L	N	L1	E	c	s	Moment of inertia (kgm²)	Weight (kg)
GA19	10	14000	9\11\14\19	32	41	66	20	25	16	12	2	0.00007	0.4
GA24	35	10600	11\14\16\19\24	40	56	78	24	30	18	14	2	0.00025	0.8
GA28	95	8500	14\19\24\25\28	48	67	90	28	35	20	15	2.5	0.00059	1.3
GA38	190	7100	20\25\28\30 32\35\38	66	80	114	37	45	24	18	3	0.0019	2.7
GA42	265	6000	25\28\30\32 35\38\40\42	75	95	126	40	50	26	20	3	0.0039	3.9
GA48	310	5600	25\30\32\35 38\40\42\45\48	85	105	140	45	56	28	21	3.5	0.0067	5.4
GA55	410	4750	30\32\35\38\40 42\45\48\50\55	98	120	160	52	65	30	22	4	0.0134	8.4
GA65	625	4250	35\38\40\42\45 48\50\55\60\65	115	135	185	47	75	35	26	4.5	0.03	13.8
GA75	1280	3550	40\42\45\48\50 55\60\65\70\75	135	160	210	53	85	40	30	5	0.066	21.6
GA90	2400	2800	50\55\60\65 70\75\80\85\90	160	200	245	62	100	45	34	5.5	0.174	37.5

注：
1.联轴器材质为45，弹性块材质为浇注聚氨酯，弹性体硬度:邵尔HA98°;
2.联轴器的短时过载扭矩TA≤2 × T2N;
3.质量和转动惯量为预留最小孔径时数据。

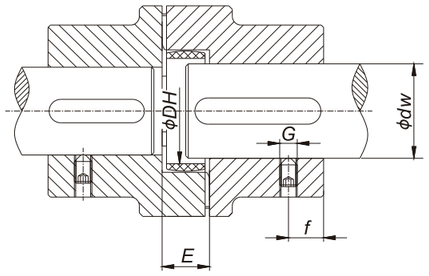
Note:
1. Coupling is made of 45, The material of spider is pouring polyurethane with shore hardness HA98°.
2.Momentary overload torque of coupling TA≤2×T2N.
3. Weight and mass moment of inertia each refer to the minimum pilot bore.

3.3 安装与偏差　　3.3 Installation and displacements

1)安装　　1)Installation



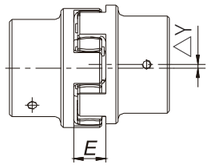
带键槽轴可伸入弹性体内孔
(轴径 ϕ dw)



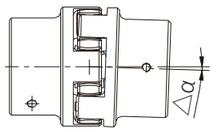
The permissible bore diameters
(Diameter of shaft ϕ dw)

规格 Size	GA19	GA24	GA28	GA38	GA42	GA48	GA55	GA65	GA75	GA90
安装尺寸 Mounting Dimension										
E	16	18	20	24	26	28	30	35	40	45
DH	18	27	30	38.5	46	51	60	68	82	100
d Wmax	12	20	22	28	36	40	48	55	65	80
紧固螺钉 Set screw										
G	M5	M5	M8	M8	M8	M8	M10	M10	M10	M12
f	10	10	15	15	20	20	20	20	25	30
预紧扭矩 Tightening T(N • m) torque	2	2	4.8	10	10	10	17	17	17	40

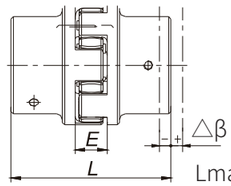
2)偏差



径向偏差 Radial displacements △Y



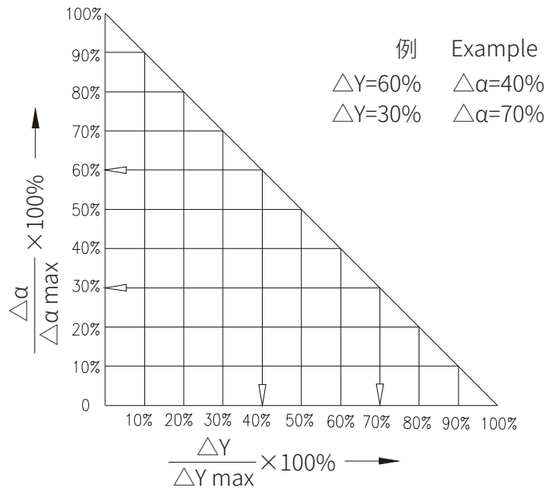
角向偏差 Angular displacements △α



Lmax/min=L+△β

轴向偏差 Axial displacements △β

2)Displacements



例 Example

△Y=60% △α=40%

△Y=30% △α=70%

Example for the displacements combinations given in above picture.

The following conditions must be met $100\% \geqslant \frac{\triangle Y}{\triangle Y\ max} + \frac{\triangle \alpha}{\triangle \alpha\ max}$

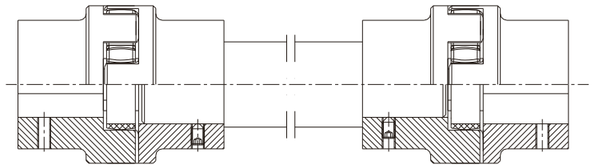
△β max(mm)	-0.5	-0.5	-0.7	-0.7	-1	-1	-1	-1	-1.5	-1.5
	+1.2	+1.4	+1.5	+1.8	+2	+2.1	+2.2	+2.6	+3	+3.4
△Y max(mm) n1=1500r/min	0.2	0.22	0.25	0.28	0.32	0.36	0.38	0.42	0.48	0.5
△α max(mm) n1=1500r/min	1.2	0.9	0.9	1	1	1.1	1.1	1.2	1.2	1.2

以上所列的弹性联轴器的允许偏差值均为标准值:其前提条件是联轴器的扭矩T2N，转速1500r/min，环境温度+30℃;若同时发生几项偏差，必须按此例限制:为确保联轴器的轴向间隙，必须保持安装距离E的精度;为使弹性体齿表面避免应力集中，轴向尺寸L应取最小值。

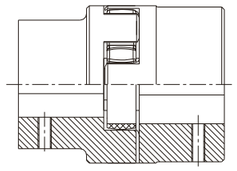
The above-mentioned figures of displacement offlexible couplingsare standard values taking into account the load ofthe coupling upto the norminal torque T2N and an operating speed n=1500rpm, alongwith an ambient temperature of+30C:The displacement figuresmay only be used one by one ifthey appear simultaneously. Theymust be limited in proportion. Care should be taken to maintainthe distance dimension E accurately in order to allow for axialclearance ofthe coupling while in operation.In case ofan axialshifting, the dimension "L"has to be considered as a minimumdimension in order to keep the spider free from pressure on its faces.

3.4 专用型 (来电咨询)

3.4 Special type(Please consult us)



带中间轴型 With intermediate shaft



加大轴径型 Increased shaft diameter

随着技术迭代进步，博能产品样本将会同步更新，请见谅。
Along with the technology advancedet.,the product of the manual of Boneng will be changed,please forgive.

控制层 CONTROL

驱动层 DRIVE

马达层 MOTOR

齿轮层 GEAR



X3010 PLC
EtherCAT&Modbus
24VDC



X3050 运动控制器
Motion Controller
EtherCAT&Modbus
24VDC

C/F/K/S-M
*・・・D
马达分布式
变频驱动器
Integrated
Gearmotor
Drive











EtherCAT&
Modbus
380~480VAC
0.25~3kW
i=4~355

AM 变频驱动器
Variable Frequency Drive



Modbus
380~480VAC
0.75~5.5kW

A1 变频驱动器
Variable Frequency Drive



Modbus/CANopen
/PROFINET
380~480VAC
0.75~250kW

C/F/K/S/R
齿轮马达
Gearmotor











380~480VAC
0.09~200kW
i=1.25~500

MP/MU/MA
三相交流异步马达
AsynchronousMotor



380~480VAC
0.09~90kW
960/1450r/min
1160/1750r/min

HB/BE/HK
齿轮箱
Gearbox



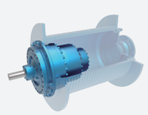
4.2~15775kW
i=5.6~450

P/PK
行星齿轮箱
Planetary
Gearbox



0.4~14000kW
i=25~4000

PW
卷扬齿轮箱
Planetary
Winch
Gearbox



1~1810kW
i=13~940

PS
回转齿轮箱
Planetary
Slewing
Gearbox



1~1626kW
i=14~947

J/JB
升降机
Jack



0.35~22.63kW
i=5~34

T
转向箱
Spiral Bevel
Gearbox



0.08~303kW
i=1:1~3:1

MX&AX
伺服马达&伺
服驱动器
Permanent
Magnet
Servo Motor
&Servo Drive

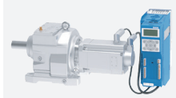


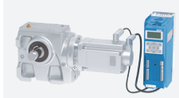
EtherCAT/
PROFINET
380~480VAC
0.28~14kW
1500/2000r/min
3000/4500r/min

C/F/K/S-MX
&AX齿轮伺
服马达&伺
服驱动器
Servo
Gearmotor
&Servo Drive









EtherCAT/
PROFINET
380~480VAC
0.28~14kW
i=1.25~315

PX-MX&AX
行星伺服马达
&伺服驱动器
Planetary
Precision Gear
Servo Motor
&Servo Drive





EtherCAT/
PROFINET
380~480VAC
0.38~14kW
i=3~100

PN-MN&AN
行星伺服马达
&伺服驱动器
Planetary
Precision Gear
Servo Motor
&Servo Drive







EtherCAT
PROFINET
380~480VAC
0.28~5.03kW
i=3~100

ME&AN
永磁同步伺服马
达&伺服驱动器
Permanent
Magnet
Servo Motor
&Servo Drive



EtherCAT/
PROFINET
200~240VAC
0.1kW~1.2kW

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