

# R+L HYDRAULICS

HYDRAULIC COMPONENTS · POWER TRANSMISSION · OIL COOLERS

## 拉加洛液压附件



### Hydraulic Components

拉嘉™ 液压元件



### Power Transmission Engineering

洛夫乔伊™ 动力传动工程



### Heat Exchangers

纽酷™ 热交换器

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## 抓住机遇，塑造未来

抓住机遇，塑造未来，是我们为未来发展制定的全新战略格言。另外，拉嘉 - 洛夫乔伊已更名为拉加洛液压，这表明我们将专注于两个核心业务：流体技术和动力传动。

我们携手母公司美国洛夫乔伊公司，共同迎接全球化经济带来的机遇。两家公司的通力协作，遍布全球的分销网络，营销合作伙伴以及我们具备的专业技术和技能，这一切使我们相信公司的发展充满希望。

广泛认可的品牌产品，周到便捷的服务，员工持续不断的努力和热情形成了公司的牢固基础。在此基础上，我们邀您一道塑造美好未来。

在世界各地，液压、机械工程领域的许多一流公司都是我们的客户。我们相信在研发，产品优化，质量，服务方面的长期投入将维护公司的信誉，从现在到将来成为客户可靠的有能力的合作伙伴。

## 一家公司，三个强劲品牌

拉加洛液压公司为流体技术、动力传动行业制造并供应机械性能卓越的高品质元件。

拉嘉™ 品牌代表用途广泛的高品质液压元件。最高标准的生产工艺确保产品的坚固和耐用性。洛夫乔伊™ 联轴器的高品质使其适用于几乎所有场合。精密是动力传动领域决定产品质量好坏的特性，我们能保证我们生产的元件绝对可靠。纽酷™ 品牌的油冷却器、热交换器完善了我们的产品系列。我们生产的其他产品也具有安全、耐用和可靠等特性。

## Take opportunities. Shape the future.

*This is our new strategic motto for the development of our company for the future. In addition, Raja-Lovejoy GmbH has changed its name to R+L HYDRAULICS GmbH, reflecting our focus on our core business: fluid technology and power transmission.*

*We are joining forces with our American parent company, Lovejoy Inc., to take the opportunities offered by a globalised economy. The conditions are more than promising: synergies between the two companies, a network of distributors and sales partners throughout the world and a great know-how.*

*We would like you to join us in shaping the future on the solid foundation of our well-established brand products, our services and the day-to-day effort and commitment of our staff.*

*Many major national and international companies of the hydraulics and mechanical engineering field are our customers. We believe in continuous investment in development, production optimization, quality and service as a means of safeguarding our reputation as a reliable, competent partner for our clients – now and in the future.*

## One Company. Three strong brands.

*R+L HYDRAULICS GmbH manufactures and sells a well-engineered range of quality components for the fluid technology and power transmission industries.*

*Our Raja brand stands for top-quality hydraulic components that are used in a great variety of industries. The highest possible manufacturing quality ensures the ruggedness and durability of our products. Lovejoy couplings provide an outstanding level of quality for nearly every application. Precision is the decisive quality characteristic in the field of power transmission, and guarantees our customers that the components we produce are absolutely reliable. The selection of oil coolers and heat exchangers of the brand NewCool rounds off our product portfolio. As with all our other products, the emphasis here is also on safety, durability and absolute reliability.*



EPTDA  
Member

TÜV  
CERT  
DIN EN ISO 9001:2000  
Zertifikat-Nr. 71100 E251

## SPIDEX® – 曲爪弹性联轴器

### SPIDEX® – the elastic coupling

- 扭转弹性
- 吸收振动
- 可盲装
- 失效保护
- 免维护
- 轴套材料：  
铸铝 (Al), 铸铁 (GG/GGG),  
粉末冶金 (Si), 钢 (St)

- *Torsional elasticity*
- *Dampening*
- *Blind assembly*
- *Safe against break-down*
- *No maintenance*
- *Hub material:*  
*Aluminium (Al), Cast Iron (GG/GGG),*  
*Sintered Steel (Si), Steel (St)*

技术说明 *Technical descripton*

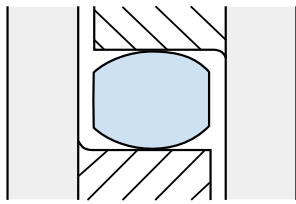


图 1  
无载荷的聚氨酯-齿  
Fig. 1  
Unloaded Polyurethane-tooth

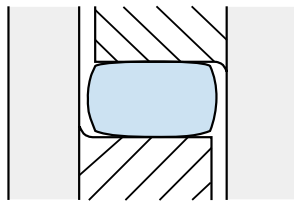


图 2  
有载荷的聚氨酯-齿  
Fig. 2  
Loaded Polyurethane-tooth

联轴器装配:  
2个轴套带弹性体  
Coupling assembled:  
Two hubs with elastic spider



弹性联轴器通过短暂存储弹性部分的冲击能量,从而减少间歇的短暂周期扭转冲击。任何程度的不均匀运动和载荷传递因此而减少。弹性联轴器能抑制物体共振,因此有助于减少噪音。弹性 SPIDEX® 联轴器传递扭矩并有失效保护功能。鼓形齿面弹性体,见图 1,允许补偿径向和角向位移的两个连接轴。它由热塑性聚氨酯酯组成,是专门用于压力承载,具有高耐磨性和弹性,并具有良好的阻尼特性,耐油,油脂,许多溶剂,大气影响和臭氧,以及在热带条件良好的耐水解特性。

工作温度在 -40°C 至 +100°C 之间。短暂温度最高容许至 +120°C。

弹性体的标准硬度是 92° Shore A。低扭矩的弹性体硬度是 80° Shore A,高扭矩的弹性体硬度是 95° 至 98° Shore A。从图 1 和图 2 中,可以看到鼓形齿面承载能量越大变形也越大。鼓形齿扭转刚度 CT 值随扭转角度 f 的增大而增大。因此,联轴器在小负载条件是相对较软的,随着扭矩的增大,会变得越来越硬。这就形成一条扭转曲线,见图 3。动态扭转曲线可忽略。

图 3 所示的阻尼能量将吸收扭矩冲击,见图 4。

SPIDEX® 联轴器的连续扭转特性能抑制共振,临界共振速度取决于扭转刚度 CT(见图 5)。

连续曲线主要避免联轴器的应力集中。此外,弹性体扭转刚度 CT 可以通过选择适当的肖氏硬度材料来改变。较大的肖氏硬度能调高共振速度,而较低的肖氏硬度能将共振速度调到一个较低的范围。如果有疑问,我们建议通过驱动端和被驱动端的转动惯量来计算系统参数。

Elastic couplings reduce intermittent short period torsional shocks, by briefly storing elastically part of this shock energy. Any degree of uneven movement and load transference is consequently reduced. Elastic couplings restrain body resonance, and therefore contribute to noise reduction. The elastic SPIDEX®-coupling transmits the torque safe against break-down. The convex generated profiled tooth crown, see fig. 1, allows compensation of radial and angular displacements of the two connected shafts. It consists of a thermoplastic Polyurethane elastomer, which is exclusively pressure loaded and designed for high abrasion resistance and elasticity, and to have good damping characteristics, and to be resistant to oils, greases, many solvents, atmospheric effects and ozone, as well as good resistance to hydrolysis in tropical conditions.

The operating temperatures are between -40 °C and +100 °C. Short temperature peaks up to +120 °C are admissible.

The standard hardness of the spider is 92° Shore A. For low torques a spider of 80° Shore A, can be used and for higher torques a spider of 95° to 98° Shore A, can be used. From figures 1 and 2, it can be seen that the convex rim of the tooth takes higher proportion of deformation-energy, the more deformation increases. The value of the torsional stiffness CT of the tooth crown increases with the torsional angle f. Consequently, the coupling is relatively soft under small load conditions and becomes harder and harder as the torque increases. This causes a progressive torsion curve, as shown in fig. 3. The dynamic torsion curve has an insignificantly steeper course.

The damping energy shown in fig. 3 results in the damping of torque shocks as shown in fig. 4.

Special advantage of the progressive torsion characteristic is in the resonance suppression achieved by the SPIDEX®-coupling, as the critical resonance speed depends on the torsional stiffness CT (see fig. 5).

The progressive curve therefore mainly protects the coupling against inadmissible overstressing. Furthermore, the torsional stiffness CT of the spider can be influenced by the choice of an appropriate Shore hardness material. A larger Shore hardness moves the resonance speed higher, and a lower Shore hardness moves resonance speed into a lower range. If in doubt, we recommend a calculation of the system parameters by using the moments of inertia of the driving and driven sides.

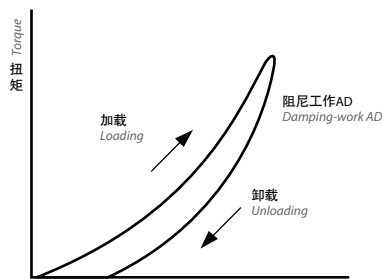


图 3  
受滞后影响,带阻尼的连续扭转特性。  
Fig. 3  
Progressive torsional characteristic with damping, effected by hysteresis

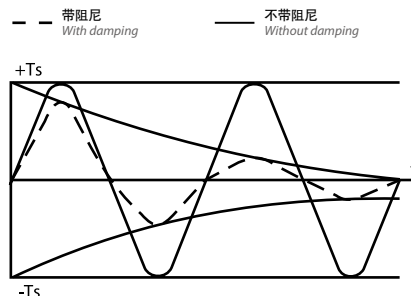


图 4  
带阻尼和不带阻尼的扭矩冲击  
Fig. 4  
Torque shock with and without damping

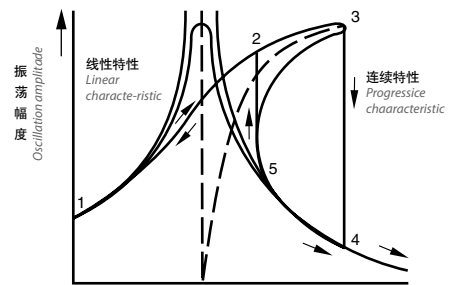


图 5  
线性和连续增加扭转特性的弹性联轴器的共振抑制。  
Fig. 5  
Resonance suppression of elastic couplings with linear and progressively increasing torsional characteristic

### 轴套类型 Model type of hub

KL		ST		A 38/45		A35 x 31		L = 70		SO	
标准轴套 Standard		-						加长轴套 Extended hub length			
加紧式轴套 Clamping hub		KL						- 标准长度 Standard			
								70 见第6页 See page 6			
轴套材料 Material of hub				规格 / 轴套设计 Size / Design of hub		开孔种类 Example finish bores				非标 Special machining	
铸铝 / Aluminium	ALU	A轴套 / Hub A	A15	B轴套 / Hub B	A14/16	Ung.	盲孔 / Unbored		- 标准 Standard		
粉末冶金 / Sintered steel	SI		A19		A19/24	Vorg.	预留孔 / Prebored		SO 非标图纸 Special drawing		
铸铁 / Cast iron	GG		A24		A24/32	38H7	ISO-标准 H7 **				
球墨铸铁 / SG	GGG		A28		A28/38	B17	锥孔 / Tapered *				
钢 / Steel	ST		A38		A38/45	F	英制孔 / Inch bored ***				
			A42		A42/55	*** SAE 16/32Z13	SAE	花键孔 Splines			
			A48		A48/60	*** A35x31	DIN 5482				
			A55		A55/70	*** N30x2x14x9G	DIN 5480				
			A65		A65/75						
			A75		A75/90						
			A90		A90/100						
			A100		A100/110						
			A110		A110/125						
			A125		A125/145						

\* 见第10页 / See page 10  
 \*\* 见第11页 / See page 11  
 \*\*\* 见第12页 / See page 12

### 法兰类型 Model type of flange

GGG		A 38 . FLANSCH		F	
法兰材料 Material of flange				法兰设计 Design of flange	
球铁 GGG40	GGG	法兰类型 Type of flange	A28	-	盲孔 Unbored
			A38	F	穿孔 Through holes
			A42	BF	螺孔 Threaded holes
			A48	CFA	液压泵厂商LINDE专用 Designed for hydraulic pumps manufacturer LINDE
			A55	CFB	
			A65	CFD	
			A75		
			A90		
		A100			

## 选型步骤

步骤 1: 计算应用扭矩:

$$T_{KN} [Nm] = \frac{P[kW] \times 9550}{U/min [1/min]}$$

步骤 2: 从第5页的表中计算出应用服务系数。总的服务系数(K):

$$K = K1* \times K2* \times K3*$$

步骤 3: 计算应用的设计扭矩( $\Delta T_{Kmax}$ )。

$$\text{设计扭矩 } (\Delta T_{Kmax}) = \text{额定扭矩 } (T_{KN}) \times \text{服务系数 } (K).$$

步骤 4: 在第7页的弹性体性能表中, 根据应用的减振要求, 选出对应硬度的弹性体。

步骤 5: 在 $T_{KN}$  和  $T_{Kmax}$  列中, 找出大于设计扭矩  $\Delta T_{Kmax}$  的对应型号。

步骤 6: 根据扭矩选出的型号, 还需根据第8页上的表格检查联轴器开孔能力。

步骤 7: 根据联轴器的外形尺寸, 检查是否满足其应用的安装空间。

## 定义

$T_{KN}$	联轴器额定扭矩
$T_{Kmax}$	联轴器最大扭矩
$P [kW]$	功率
$U/min [1/min]$	转速
$Nm$	牛顿米
$\Delta T_{Kmax}$	最大应用扭矩
$T_{KW}$	交变应用载荷 (DIN 740 第2部分)
$K$	应用服务系数

## Selection process for sizing determination

**Step 1:** Determine the nominal torque of your application:

$$T_{KN} [Nm] = \frac{P[kW] \times 9550}{U/min [1/min]}$$

**Step 2:** Calculate your Application Service Factor using the charts on page 5. The total Service Factor (K) will be:

$$K = K1* \times K2* \times K3*$$

**Step 3:** Calculate the design torque ( $\Delta T_{Kmax}$ ) of your application.

$$\text{Design torque } (\Delta T_{Kmax}) = \text{Nominal torque } (T_{KN}) \times \text{service factor } (K).$$

**Step 4:** Using the Elastomer performance data charts on page 7 select the urethane shore hardness which best corresponds to your relative damping needs in the application.

**Step 5:** Next find the columns listing  $T_{KN}$  and  $T_{Kmax}$  values listed in Nm and compare them against the  $\Delta T_{Kmax}$  figure for your application. Make sure that the spider/coupling size values are larger than the application values.

**Step 6:** Once the size is selected using the torque values, check the table on page 8 to make sure the bore size needed will fit in the coupling.

**Step 7:** Double check the overall dimensions of the coupling to ensure that it will fit in the space allowed for the coupling in the application.

## Definition of terms

$T_{KN}$	Rated coupling torque
$T_{Kmax}$	Maximum torque of the coupling
$P [kW]$	Power in kilowatts
$U/min [1/min]$	Revolutions per minute
$Nm$	Newton meters
$\Delta T_{Kmax}$	Maximum torque of the application
$T_{KW}$	Varying load of an application in kilowatts (DIN 740 part 2)
$K$	Application Service Factor

## 应用服务系数 *Application service factors*

### K1

	应用服务系数 K1
均匀运行驱动小颗粒的物质。液压和离心泵、小型发电机、鼓风机、风扇、通风机、皮带/螺旋输送机。	1.0
均匀运行驱动中等颗粒的物质。板料折弯机、木工机械、粉碎机、磨机、纺织机械、搅拌机。	1.2
非均匀运行驱动中等颗粒的物质。旋转烤箱、印刷机、发电机、碎纸机、绕线机、纺纱机、粘性液体泵。	1.3
非均匀运行和冲击，驱动中等颗粒的物质。混凝土搅拌机、落锤、缆车、造纸厂、压缩机、浆叶泵、绕绳机、离心机。	1.4
非均匀运行和重载冲击，驱动大颗粒的物质。挖掘机、轧机、活塞泵、压机、旋转钻孔机、剪切机、锻造压机、石头破碎机。	1.6
非均匀运行和严重重载冲击，驱动巨大颗粒的物质。恒速活塞式压缩机和泵、重载卷扬机、焊接机、制砖机、石头破碎机。	1.8

### K1

	Application service factor K1
<i>Uniform operation with small masses to be accelerated. Hydraulic and centrifugal pumps, light generators, blowers, fans, ventilators, belt/screw conveyors.</i>	1.0
<i>Uniform operation with medium masses to be accelerated. Sheet metal bending machines, wood working machines, mills, textile machines, mixers.</i>	1.2
<i>Irregular operation with medium masses to be accelerated. Rotating ovens, printing presses, generators, shredders, winders, spinning machines, pumps for viscous fluids.</i>	1.3
<i>Irregular operation and shocks, with medium masses to be accelerated Concrete mixers, drop hammers, cable cars, paper mills, compression pumps, propeller pumps, rope winders, centrifuges.</i>	1.4
<i>Irregular operation and heavy shocks, with large masses to be accelerated. Excavators, hammer mills, piston pumps, presses, rotary boring machines, shears, forge presses, stone crushers.</i>	1.6
<i>Irregular operation and very heavy shocks, with very large masses to be accelerated Piston type compressors and pumps without speed variations, heavy roll sets, welding machines, brick Dresses, stone crushers.</i>	1.8

### K2 – 启动频率系数

每小时启动次数	100	200	400	800
服务系数 K2	1.0	1.2	1.4	1.6

### K2 – for starts per hour

Starts per hour	100	200	400	800
Service factor K2	1.0	1.2	1.4	1.6

### K3 – 环境温度系数

环境温度	-30 至 +30 °C	+40 °C	+60 °C	+80 °C
服务系数 K3	1.0	1.2	1.4	1.8

### K3 – for ambient temperature

Ambient temperature	-30 to +30 °C	+40 °C	+60 °C	+80 °C
Service factor K3	1.0	1.2	1.4	1.8



## SPIDEX®-IEC 标准电机联轴器, 弹性体 92° Shore A

## SPIDEX®-Couplings for IEC-standard motors, spider 92° Shore A

电机规格 Motor size	轴径 Shaft D x l [mm]		n = 750 [1/min] 功率 P Power P		规格 Size	T <sub>k</sub> max [Nm]	n = 1000 [1/min] 功率 P Power P		规格 Size	T <sub>k</sub> max [Nm]	n = 1500 [1/min] 功率 P Power P		规格 Size	T <sub>k</sub> max [Nm]	n = 3000 [1/min] 功率 P Power P		规格 Size	T <sub>k</sub> max [Nm]		
	= 1500 [1/min]	= 3000 [1/min]	kW	T <sub>AN</sub> [Nm]			kW	T <sub>AN</sub> [Nm]			kW	T <sub>AN</sub> [Nm]			kW	T <sub>AN</sub> [Nm]			kW	T <sub>AN</sub> [Nm]
56	9 x 20		-	-	14/16	15	-	-	14/16	15	0.06	0.4	14/16	15	0.09	0.3	14/16	15		
					15				15				0.09				0.6		15	0.12
63	11 x 23		-	-			-	-			0.12	0.9			0.18	0.6				
																			0.18	1.2
71	14 x 30		-	-			-	-			0.25	1.8			0.37	1.3				
																			0.37	2.5
80	19 x 40		-	-	19/24	20	0.37	3.7	19/24	20	0.55	3.7	19/24	20	0.75	2.5	19/24	20		
																			0.55	5.5
90 S	24 x 50		-	-			0.75	7.9			1.1	7.5			1.5	4.9				
90 L			-	-			1.1	11			1.5	10			2.2	7.4				
100 L	28 x 60		0.75	11	24/32	70	1.5	15	24/32	70	2.2	15	24/32	70	3	9.8	24/32	70		
			1.1	16															3	20
112 M			1.5	21			2.2	22			4	27			4	13				
132 S	38 x 80		2.2	29	28/38	190	3	30	28/38	190	5.5	36	28/38	190	5.5	18	28/38	190		
																			7.5	25
132 M			3	40			4	39			7.5	49								
																			5.5	55
160 M	42 x 110		4	54	38/45	380	7.5	74	38/45	380	11	72	38/45	380	11	35	38/45	380		
			5.5	74															15	49
160 L			7.5	100			11	108			15	98			18.5	60				
180 M	48 x 110				42/55	530			42/55	530	18.5	121	42/55	530	22	72	42/55	530		
180 L			11	147			15	147			22	144								
200 L	55 x 110		15	196			18.5	185			30	195			30	97				
																			22	215
225 S	60 x 140	55 x 110	18.5	245	48/60	620			48/60	620	37	245	48/60	620						
225 M			22	294			30	292			45	294			45	146				
250 M	65 x 140	60 x 140	30	390	65/75	1250	37	361	55/70	820	55	357	55/70	820	55	176	48/60	620		
280 S	75 x 140	65 x 140	37	490			45	440	65/75	1250	75	487	65/75	1250	75	245	55/70	820		
280 M			45	585			55	536			90	584			90	294				
315 S	80 x 170		55	715	75/90	2560	75	730	75/90	2560	110	714	75/90	2560	110	350				
315 M			75	970	90/100	4800	90	876			132	857			132	420	65/75	1250		
315 L			90	1170			110	1070	90/100	4800	160	1030	90/100	4800	160	513				
																			200	1290
355 L	95 x 170	75 x 140	132	1710			160	1550			250	1610			250	801	75/90	2560		
			160	2070	100/110	6600	200	1930			315	2020			315	1010				
400 L	100 x 210	80 x 170	250	3230	110/125	9600	315	3040	100/110	6600		2280	100/110	6600	355	1140				
																			2560	400

联轴器的选型是根据一般运行的情况。对于其它情况，请告之服务系数。

Coupling selection made for normal operation. For other conditions please notify the safety factors.

技术数据

Technical data

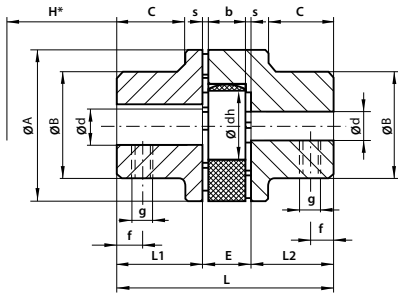
弹性体 Spider	规格 Size	扭矩 Torque [Nm]			最大转速 Max. rotation n [1/min]		扭转角度 Torsional angle		扭转刚度 Torsional stiffness C <sub>dyn</sub> [Nm/rad]				相对阻尼 Relatively damping
		连续 Contin. T <sub>KN</sub>	最大 Maximum T <sub>Kmax</sub>	交替 Alternat. T <sub>KW</sub>	V=		T <sub>KN</sub> ΦKN	T <sub>Kmax</sub> ΦKmax	1.00 T <sub>KN</sub>	0.75 T <sub>KN</sub>	0.5 T <sub>KN</sub>	0.25 T <sub>KN</sub>	
80° Shore 刻度 A 颜色:蓝色 Scale A Color:Blue	14/16, 15	4	8	1	19000	-	6.4°	10°	-	-	-	-	0.85
	19/24	4.9	9.7	1.3	14000	19000	3.2°	5°	0.25 x 10 <sup>3</sup>	0.21 x 10 <sup>3</sup>	0.17 x 10 <sup>3</sup>	0.11 x 10 <sup>3</sup>	
	24/32	17	34	4.4	10600	14000			0.90 x 10 <sup>3</sup>	0.75 x 10 <sup>3</sup>	0.60 x 10 <sup>3</sup>	0.40 x 10 <sup>3</sup>	
	28/38	46	92	12	8500	11800			2.30 x 10 <sup>3</sup>	1.93 x 10 <sup>3</sup>	1.52 x 10 <sup>3</sup>	1.03 x 10 <sup>3</sup>	
	38/45	93	185	24	7100	9500			4.10 x 10 <sup>3</sup>	3.45 x 10 <sup>3</sup>	2.75 x 10 <sup>3</sup>	1.85 x 10 <sup>3</sup>	
	42/55	130	260	34	6000	8000			5.90 x 10 <sup>3</sup>	5.05 x 10 <sup>3</sup>	4.00 x 10 <sup>3</sup>	2.70 x 10 <sup>3</sup>	
	48/60	150	300	39	5600	7100			8.00 x 10 <sup>3</sup>	6.81 x 10 <sup>3</sup>	5.30 x 10 <sup>3</sup>	3.60 x 10 <sup>3</sup>	
	55/70	180	360	47	4750	6300			9.95 x 10 <sup>3</sup>	8.45 x 10 <sup>3</sup>	6.71 x 10 <sup>3</sup>	4.50 x 10 <sup>3</sup>	
	65/75	205	410	53	4250	5600			13.05 x 10 <sup>3</sup>	11.08 x 10 <sup>3</sup>	8.79 x 10 <sup>3</sup>	5.89 x 10 <sup>3</sup>	
	75/90	475	950	124	3550	4750			22.00 x 10 <sup>3</sup>	18.44 x 10 <sup>3</sup>	14.65 x 10 <sup>3</sup>	9.85 x 10 <sup>3</sup>	
	90/100	1175	2350	306	2800	3750			45.00 x 10 <sup>3</sup>	38.20 x 10 <sup>3</sup>	30.05 x 10 <sup>3</sup>	20.00 x 10 <sup>3</sup>	
	100/110	1610	3220	419	2500	3350			75.69 x 10 <sup>3</sup>	64.00 x 10 <sup>3</sup>	50.20 x 10 <sup>3</sup>	34.00 x 10 <sup>3</sup>	
110/125	1950	3900	507	2240	3000			100.00 x 10 <sup>3</sup>	84.00 x 10 <sup>3</sup>	67.00 x 10 <sup>3</sup>	45.00 x 10 <sup>3</sup>		
125/145	2440	4880	634	2000	2650			140.00 x 10 <sup>3</sup>	118.00 x 10 <sup>3</sup>	94.00 x 10 <sup>3</sup>	63.06 x 10 <sup>3</sup>		
92° Shore 刻度 A 颜色:白色 Scale A Color:White	14/16, 15	7.5	15	2.0	19000	-	6.4°	10°	0.38 x 10 <sup>3</sup>	0.31 x 10 <sup>3</sup>	0.24 x 10 <sup>3</sup>	0.14 x 10 <sup>3</sup>	0.75
	19/24	10	20	2.6	14000	19000	3.2°	5°	1.28 x 10 <sup>3</sup>	1.05 x 10 <sup>3</sup>	0.80 x 10 <sup>3</sup>	0.47 x 10 <sup>3</sup>	
	24/32	35	70	9.1	10600	14000			4.86 x 10 <sup>3</sup>	3.98 x 10 <sup>3</sup>	3.01 x 10 <sup>3</sup>	1.79 x 10 <sup>3</sup>	
	28/38	95	190	25	8500	11800			10.90 x 10 <sup>3</sup>	8.94 x 10 <sup>3</sup>	6.76 x 10 <sup>3</sup>	4.01 x 10 <sup>3</sup>	
	38/45	190	380	49	7100	9500			21.05 x 10 <sup>3</sup>	17.26 x 10 <sup>3</sup>	13.05 x 10 <sup>3</sup>	7.74 x 10 <sup>3</sup>	
	42/55	265	530	69	6000	8000			23.74 x 10 <sup>3</sup>	19.47 x 10 <sup>3</sup>	14.72 x 10 <sup>3</sup>	8.73 x 10 <sup>3</sup>	
	48/60	310	620	81	5600	7100			36.70 x 10 <sup>3</sup>	30.09 x 10 <sup>3</sup>	22.75 x 10 <sup>3</sup>	13.49 x 10 <sup>3</sup>	
	55/70	410	820	107	4750	6300			50.72 x 10 <sup>3</sup>	41.59 x 10 <sup>3</sup>	31.45 x 10 <sup>3</sup>	18.64 x 10 <sup>3</sup>	
	65/75	625	1250	163	4250	5600			97.13 x 10 <sup>3</sup>	79.65 x 10 <sup>3</sup>	60.22 x 10 <sup>3</sup>	35.70 x 10 <sup>3</sup>	
	75/90	1280	2560	333	3550	4750			113.32 x 10 <sup>3</sup>	92.92 x 10 <sup>3</sup>	70.26 x 10 <sup>3</sup>	41.65 x 10 <sup>3</sup>	
	90/100	2400	4800	624	2800	3750			190.09 x 10 <sup>3</sup>	155.87 x 10 <sup>3</sup>	117.86 x 10 <sup>3</sup>	69.86 x 10 <sup>3</sup>	
	100/110	3300	6600	858	2500	3350			253.08 x 10 <sup>3</sup>	207.53 x 10 <sup>3</sup>	156.91 x 10 <sup>3</sup>	93.01 x 10 <sup>3</sup>	
110/125	4800	9600	1248	2240	3000			311.61 x 10 <sup>3</sup>	255.52 x 10 <sup>3</sup>	193.20 x 10 <sup>3</sup>	114.52 x 10 <sup>3</sup>		
125/145	6650	13300	1729	2000	2650			474.86 x 10 <sup>3</sup>	389.39 x 10 <sup>3</sup>	294.41 x 10 <sup>3</sup>	174.51 x 10 <sup>3</sup>		
98° Shore 刻度 A 颜色:红色 Scale A Color:Red	14/16, 15	12.5	25	3.3	19000	-			0.56 x 10 <sup>3</sup>	0.46 x 10 <sup>3</sup>	0.35 x 10 <sup>3</sup>	0.21 x 10 <sup>3</sup>	0.7
	19/24	17	34	4.4	14000	19000	6.4°	10°	2.92 x 10 <sup>3</sup>	2.39 x 10 <sup>3</sup>	1.81 x 10 <sup>3</sup>	1.07 x 10 <sup>3</sup>	
	24/32	60	120	16	10600	14000	3.2°	5°	9.93 x 10 <sup>3</sup>	8.14 x 10 <sup>3</sup>	6.16 x 10 <sup>3</sup>	3.65 x 10 <sup>3</sup>	
	28/38	160	320	42	8500	11800			26.77 x 10 <sup>3</sup>	21.95 x 10 <sup>3</sup>	16.60 x 10 <sup>3</sup>	9.84 x 10 <sup>3</sup>	
	38/45	325	650	85	7100	9500			48.57 x 10 <sup>3</sup>	39.83 x 10 <sup>3</sup>	30.11 x 10 <sup>3</sup>	17.85 x 10 <sup>3</sup>	
	42/55	450	900	117	6000	8000			54.50 x 10 <sup>3</sup>	44.69 x 10 <sup>3</sup>	33.79 x 10 <sup>3</sup>	20.03 x 10 <sup>3</sup>	
	48/60	525	1050	137	5600	7100			65.29 x 10 <sup>3</sup>	53.54 x 10 <sup>3</sup>	40.48 x 10 <sup>3</sup>	24.00 x 10 <sup>3</sup>	
55/70	685	1370	178	4750	6300			94.97 x 10 <sup>3</sup>	77.88 x 10 <sup>3</sup>	58.88 x 10 <sup>3</sup>	34.90 x 10 <sup>3</sup>		
95° Shore 刻度 A 颜色:红色 Scale A Color:Red	65/75	940	1880	244	4250	5600	3.2°	5°	129.51 x 10 <sup>3</sup>	106.20 x 10 <sup>3</sup>	80.30 x 10 <sup>3</sup>	47.60 x 10 <sup>3</sup>	
	75/90	1920	3840	499	3550	4750			197.50 x 10 <sup>3</sup>	161.95 x 10 <sup>3</sup>	122.45 x 10 <sup>3</sup>	72.58 x 10 <sup>3</sup>	
	90/100	3600	7200	936	2800	3750			312.20 x 10 <sup>3</sup>	256.00 x 10 <sup>3</sup>	193.56 x 10 <sup>3</sup>	114.73 x 10 <sup>3</sup>	
	100/110	4950	9900	1287	2500	3350			383.26 x 10 <sup>3</sup>	314.27 x 10 <sup>3</sup>	237.62 x 10 <sup>3</sup>	140.85 x 10 <sup>3</sup>	
	110/125	7200	14400	1872	2240	3000			690.06 x 10 <sup>3</sup>	565.85 x 10 <sup>3</sup>	427.84 x 10 <sup>3</sup>	253.60 x 10 <sup>3</sup>	
125/145	10000	20000	2600	2000	2650			1343.64 x 10 <sup>3</sup>	1101.79 x 10 <sup>3</sup>	833.06	493.79 x 10 <sup>3</sup>		
64° Shore 刻度 D 颜色:绿色 Scale D Color:Green	24/32	75	150	19.5	10600	14000	2.5°	3.6°	15.11 x 10 <sup>3</sup>	12.39 x 10 <sup>3</sup>	9.37 x 10 <sup>3</sup>	5.55 x 10 <sup>3</sup>	0.6
	28/38	200	400	52	8500	11800			27.52 x 10 <sup>3</sup>	22.57 x 10 <sup>3</sup>	17.06 x 10 <sup>3</sup>	10.12 x 10 <sup>3</sup>	
	38/45	405	810	105	7100	9500			70.15 x 10 <sup>3</sup>	57.52 x 10 <sup>3</sup>	43.49 x 10 <sup>3</sup>	25.78 x 10 <sup>3</sup>	
	42/55	560	1120	146	6000	8000			79.86 x 10 <sup>3</sup>	65.49 x 10 <sup>3</sup>	49.52 x 10 <sup>3</sup>	29.35 x 10 <sup>3</sup>	
	48/60	655	1310	170	5600	7100			95.51 x 10 <sup>3</sup>	78.32 x 10 <sup>3</sup>	59.22 x 10 <sup>3</sup>	35.10 x 10 <sup>3</sup>	
	55/70	825	1650	215	4750	6300			107.52 x 10 <sup>3</sup>	88.50 x 10 <sup>3</sup>	66.91 x 10 <sup>3</sup>	39.66 x 10 <sup>3</sup>	
	65/75	1175	2350	306	4250	5600			151.09 x 10 <sup>3</sup>	123.90 x 10 <sup>3</sup>	93.68 x 10 <sup>3</sup>	55.53 x 10 <sup>3</sup>	
	75/90	2400	4800	624	3550	4750			248.22 x 10 <sup>3</sup>	203.54 x 10 <sup>3</sup>	153.90 x 10 <sup>3</sup>	91.22 x 10 <sup>3</sup>	
90/100	4500	9000	1170	2800	3750			674.52 x 10 <sup>3</sup>	553.11 x 10 <sup>3</sup>	418.20 x 10 <sup>3</sup>	247.89 x 10 <sup>3</sup>		

对于转速大于V=30 m/s的应用，应做动平衡。 For speeds of over V=30 m/s dynamic balancing is necessary.

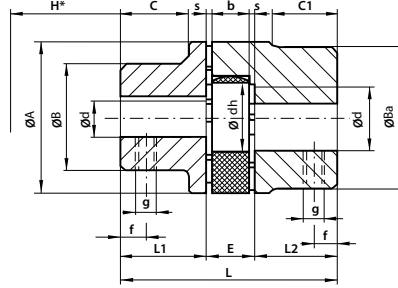
SPIDEX®- 弹性体运行条件 Operating conditions for SPIDEX®-spiders

	基本型 Basic version	特殊型 Special Spider		
材料 Material	聚氨酯 Polyurethane			
弹性体硬度 Hardness of spider	80 °C Shore A	92 °C Shore A	95 °C/98 °C Shore A	64 °C Shore D
弹性体颜色 Color of spider	蓝色 Blue	白色 White	红色 Red	绿色 Green
允许温度范围 Permissible durable temperature range	-40 °C 至 +80 °C -40 °C up to +80 °C	-40 °C 至 +90 °C -40 °C up to +90 °C	-30 °C 至 +100 °C -30 °C up to +100 °C	-20 °C 至 +100 °C -20 °C up to +100 °C
允许短时温度 Permissible short term temperature peaks	-60 °C 至 +80 °C -60 °C up to +80 °C	-50 °C 至 +120 °C -50 °C up to +120 °C	-40 °C 至 +120 °C -40 °C up to +120 °C	-30 °C 至 +120 °C -30 °C up to +120 °C
阻尼 Damping	非常好 Very Good	好 Good	中等 Medium	低 Low
弹性 Elasticity	软 Soft	中等 Medium	硬 Hard	非常硬 Very hard
耐磨性 Abrasion resistance	非常好 Very good	非常好 Very good	好 Good	好 Good
耐久性 Durability	极好 Excellent	非常好 Very good	非常好 Very good	非常好 Very good
典型应用 Typical applications	一般驱动，也有共振的可能。 Normal drives also resonance speed possibility	一般驱动 Normal drives	一般驱动，高性能 Normal drives with high performance	高性能，小扭转角度。 High performance with small torsional angle

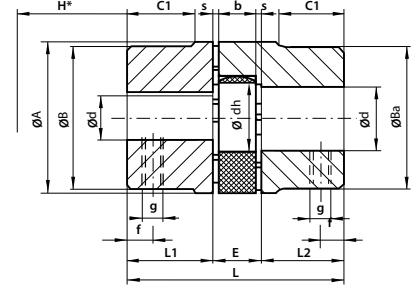
**SPIDEX® - 联轴器尺寸 Dimensions SPIDEX® - Couplings**



组合轴套 A/A Hub combination A/A



组合轴套 A/B Hub combination A/B



组合轴套 B/B Hub combination B/B

SPIDEX® 型号 Type	孔径 Bores				尺寸 [mm] Dimensions [mm]														重量 Weight [kg]	特殊轴套长 Special hub length [mm]
	成品孔径 Finish bores				L1 +															
	轴套 A Hub A		轴套 B Hub B		A	B	Ba	L	L2	E	s	b	C	C1	dh	g	f	H*		
	min	max	min	max																
材料: 铸铝 Material: Die cast aluminium																				
A15	-	-	4	15	26	-	26	28	10	8	1	6	-	-	12	M5	5	8	0.025	-
A19/24	6	19	19	24	40	32	39	66	25	16	2	12	20	21	18	M5	10	14	0.13	55
A24/32	8	24	16	32	55	40	53	78	30	18	2	14	24	26	27	M5	10	16	0.26	60
A28/38	10	28	28	38	65	48	63	90	35	20	2.5	15	28	29	30	M6	15	18	0.46	60
A38/45	14	38	38	45	80	66	79	114	45	24	3	18	37	39	38	M8	15	19	0.90	70
材料: 铸铁 (GG), 球墨铸铁 (GGG), 钢 (St), 粉末冶金 (Si) Material: Cast iron (GG), SG iron (GGG), Steel (St), Sintered steel (Si)																				
A14/16 Sint	-	-	4	16	30	-	30	35	11	13	1.5	10	-	-	10	M4	5	12	0.14	18.5
A19/24 GG/St/Si	6	19	12	24	40	32	39	66	25	16	2	12	20	21	18	M5	10	14	0.35	55
A24/32 GG/St/Si	10	24	14	32	55	40	52	78	30	18	2	14	24	26	27	M5	10	16	1.0	60
A28/38 GG/St/Si	12	28	28	38	65	48	62	90	35	20	2.5	15	28	29	30	M6	15	18	1.6	80
A38/45 GG/GGG/St/Si	14	38	38	45	80	66	77	114	45	24	3	18	37	37	38	M8	15	19	2.3	110
A42/55 GG/GGG/St	19	42	42	55	95	75	94	126	50	26	3	20	40	40	46	M8	20	21	3.6	110
A48/60 GG/GGG/St	19	48	48	60	105	85	102	140	56	28	3.5	21	45	45	51	M8	20	22	4.8	110
A55/70 GG/GGG/St	19	55	55	70	120	98	118	160	65	30	4	22	52	52	60	M10	20	23	7.4	140
A65/75 GG/GGG/St	22	65	65	75	135	115	132	185	75	35	4.5	26	61	59	68	M10	20	27	10.9	140
A75/90 GG/GGG/St	30	75	75	90	160	135	158	210	85	40	5	30	69	65	80	M10	25	31	17.7	195
A90/100 GG/GGG/St	40	90	90	100	200	160	180	245	100	45	5.5	34	81	81	100	M10	25	35	29.5	140/210
A100/110 GG/GGG/St	-	-	55	110	225	-	200	270	110	50	6	38	-	89	113	M16	30	39	43.5	-
A110/125 GG/GGG/St	-	-	65	125	255	-	230	295	120	55	6.5	42	-	96	127	M16	35	43	63	-
A125/145 GG/GGG/St	-	-	65	145	290	-	265	340	140	60	7	46	-	112	147	M16	40	47	95	-

H\* 是在径向方向进行拆卸弹性体的最小尺寸要求。成品孔径按ISO标准H7，键槽按DIN-6885，表1(J59)。重量和转动惯量是对应铝/铸铁/球墨铸铁在最大孔径和没有键槽时的值。

H\* is the minimum dimension required for the disassembly of the aggregates in the radial direction. Finish bores acc. to ISO standard H7, keyway acc. to DIN 6885, sheet 1 (J59). Weight and moment of inertia in relation to the materials Al/GG/GGG with max. diameter without keyway.

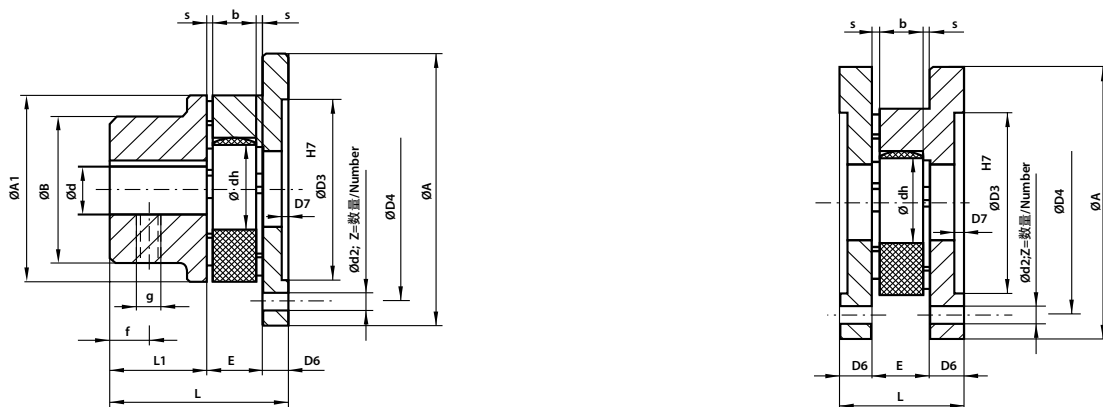
标准程序: A 轴套和B 轴套, 铸铁 „GG“  
B 轴套, 球墨铸铁 „GGG“, 钢 „St“, 粉末冶金 „Si“  
A 轴套, 按要求定制系列  
140/160/180

Standard program: A-hub and B-hub in cast iron „GG“  
B-hub in spheroidal iron „GGG“, steel „St“, sintered steel „Si“  
A-hub available as special design  
Series 140/160/180 on request

**转动惯量 J [kgm<sup>2</sup>] (标准轴套, 最大开孔, 不带键槽)**

**Moment of inertia J [kgm<sup>2</sup>] (Standard hub with max. diameter of boring without keyway)**

联轴器部件 Part of coupling	材料 Material	联轴器规格 Coupling size														
		14/16	15	19/24	24/32	28/38	38/45	42/55	48/60	55/70	65/75	75/90	90/100	100/110	110/125	125/145
轴套 A Hub A	Al	-	-	0.000010	0.00004	0.00010	0.00035	-	-	-	-	-	-	-	-	-
	GG/GGG/St	-	-	0.000050	0.00025	0.00040	0.0010	0.0020	0.0030	0.0060	0.0125	0.025	0.069	-	-	-
轴套 B Hub B	Al	-	0.000004	0.000020	0.00009	0.00020	0.00045	-	-	-	-	-	-	-	-	-
	GG/GGG/St	0.00002	-	0.000050	0.00020	0.00070	0.00100	0.0030	0.0050	0.0100	0.0183	0.041	0.09	0.154	0.091	0.575
弹性体 Spider	Pu	-	-	0.000003	0.00001	0.00002	0.00005	0.0001	0.0002	0.0003	0.0005	0.002	0.004	0.007	0.015	0.025

**SPIDEX® - 法兰联轴器尺寸 Dimensions SPIDEX® - Flange Couplings**

**F系列 Series F**

Spidex® 型号 Type	成品孔径 <sup>1)</sup> Finishbores <sup>1)</sup>		尺寸 Dimensions [mm]																	重量 Weight [kg]	转动惯量 <sup>2)</sup> Moment of inertia <sup>2)</sup> J [kgm <sup>2</sup> ]
	min	max <sup>4)</sup>	A	A1	B	L1	L	E	s	b	dh	g	f	D6	D7	d2 DIN69	Z 数量 Number	D3	D4		
<b>F 28</b>	10	28	100	65	65	35	65	20	2.5	15	30	M8	15	10	1.5	7	6	65	80	1.18	0.0012
<b>F 38</b>	14	38	115	80	66	45	79	24	3	18	38	M8	15	10	1.5	7	6	80	95	1.87	0.0023
<b>F 42</b>	19	42	140	95	75	50	88	26	3	20	46	M8	20	12	2	9	6	95	115	3.06	0.0054
<b>F 48</b>	19	48	150	105	85	56	96	28	3.5	21	51	M8	20	12	2	9	8	105	125	3.88	0.0080
<b>F 55</b>	19	55	175	120	98	65	111	30	4	22	60	M10	20	16	2	11	8	120	145	6.21	0.0178
<b>F 65</b>	22	65	190	135	115	75	126	35	4.5	26	68	M10	20	16	2	11	10	135	160	8.63	0.0293
<b>F 75</b>	30	75	215	160	135	85	144	40	5	30	80	M10	25	19	2.5	14	10	160	185	13.2	0.0595
<b>F 90</b>	40	90	260	200	160	100	165	45	5.5	34	100	M12	30	20	3	14	12	200	225	22.0	0.1443

4) 如需更大孔径, 请选择B轴套。 4) If larger bore diameters required you have to use hub type B.

**FF系列 Series FF**

Spidex® 型号 Type	尺寸 Dimensions [mm]												重量 Weight [kg]	转动惯量 <sup>2)</sup> Moment of inertia <sup>2)</sup> J [kgm <sup>2</sup> ]
	A	L	E	s	b	dh	D6	D7	d2 DIN 69 <sup>3)</sup>	Z 数量 Number	D3	D4		
<b>FF 28</b>	100	40	20	2.5	15	30	10	1.5	7	6	65	80	1.19	0.0015
<b>FF 38</b>	115	44	24	3	18	38	10	1.5	7	6	80	95	1.66	0.0028
<b>FF 42</b>	140	50	26	3	20	46	12	2	9	6	95	115	2.91	0.0072
<b>FF 48</b>	150	52	28	3.5	21	51	12	2	9	8	105	125	3.35	0.0092
<b>FF 55</b>	175	62	30	4	22	60	16	2	11	8	120	145	5.78	0.023
<b>FF 65</b>	190	67	35	4.5	26	68	16	2	11	10	135	160	7.13	0.034
<b>FF 75</b>	215	78	40	5	30	80	19	2.5	14	10	160	185	10.5	0.065
<b>FF 90</b>	260	85	45	5.5	34	100	20	3	14	12	200	225	16.5	0.15

1) 成品孔径按ISO标准H7, 键槽按DIN 6885, 表 1 (JS9)。

2) 重量和转动惯量是所对应材料GG/GGG在最大开孔, 不带键槽下的值。

3) 可能是螺纹孔, 这时型号改为BF和BFF。

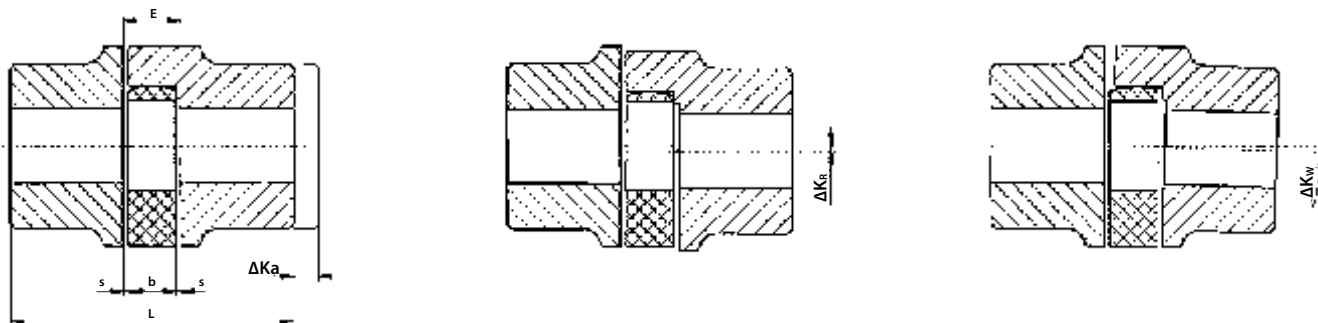
1) Finish bores acc. to ISO-standard H7, keyway acc. to DIN 6885, sheet 1 (JS9).

2) Weight and moment of inertia in relation to the materials GG/GGG with max. diameter without keyway.

3) Even threaded holes instead of through holes may be obtained, the flange sign changed into „BF“ resp. „BFF“.

80°, 92°, 95°, 98° Shore A 弹性体的最大允许偏差值

Max. permissible displacement values for spiders 80°, 92°, 95°, 98° Shore A



Spidex® 型号 Type	尺寸 Dimensions [mm]				轴向偏差 Axial displace ΔKa [mm]	径向偏差 Radial displace ΔKr [mm]				角度偏差 Angular displace ΔKw [°]			
	L	E	b	s		转速 Rotation n[1/min]				转速 Rotation n[1/min]			
						750	1000	1500	3000	750	1000	1500	3000
A14	35	13	10	1.5	1.0	0.22	0.20	0.16	0.11	1.3	1.3	1.2	1.1
A15	28	8	6	1	1.0	0.22	0.20	0.16	0.11	1.3	1.3	1.2	1.1
A19	66	16	12	2.0	1.2	0.27	0.24	0.20	0.13	1.3	1.3	1.2	1.1
A24	78	18	14	2.0	1.4	0.30	0.27	0.22	0.15	1.1	1.0	0.9	0.8
A28	90	20	15	2.5	1.5	0.34	0.30	0.25	0.17	1.1	1.0	0.9	0.8
A38	114	24	18	3.0	1.8	0.38	0.35	0.28	0.19	1.1	1.1	1.0	0.8
A42	126	26	20	3.0	2.0	0.43	0.38	0.32	0.21	1.1	1.1	1.0	0.8
A48	140	28	21	3.5	2.1	0.50	0.44	0.36	0.25	1.2	1.2	1.1	0.9
A55	160	30	22	4.0	2.2	0.54	0.46	0.38	0.26	1.2	1.2	1.1	1.0
A65	185	35	26	4.5	2.6	0.56	0.50	0.42	0.28	1.2	1.2	1.2	1.0
A75	210	40	30	5.0	3.0	0.65	0.58	0.48	0.32	1.3	1.2	1.2	1.0
A90	245	45	34	5.5	3.4	0.68	0.60	0.50	0.34	1.3	1.3	1.2	1.1
A100	270	50	38	6.0	3.8	0.71	0.64	0.52	0.36	1.3	1.3	1.2	1.1
A110	295	55	42	6.5	4.2	0.75	0.67	0.55	0.38	1.3	1.3	1.3	1.1
A125	340	60	46	7.0	4.6	0.80	0.70	0.60	-	1.3	1.3	1.3	-

- 1) L尺寸根据 ΔKa值延长。
- 2) 以上偏差值只是一般指导。
- 3) 当同时都有角度和径向偏差时，可使用对应的数值。
- 4) 以上数值是在温度 T = +30°C 条件下的。如果温度增加，需将许用径向和角度偏差乘以温度系数 St。

- 1) The dimension L extends acc. to the mentioned ΔKa-values.
- 2) The above mentioned displacement values are general guidelines.
- 3) In case of angular and radial displacements at the same time you can use the values only proportionally.
- 4) The values are valid for an operating temperature of T = +30°C. If the temperature increases, you have to multiply the permissible radial and angular displacement values with the temperature factor St.

温度 T Temperature T	-25 < +30 °C	+30 < +40 °C	+40 < +60 °C	+60 < +80 °C
系数 St Safety St	1.0	0.8	0.7	0.6

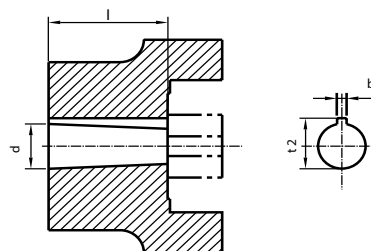
注意: 中将延长联轴器的寿命  
注意: 公布安装指导

Careful alignment will extend the coupling life  
Caution: Notify the assembly instruction

锥孔 Taper bores

代码 Code	锥度 1:8 Taper 1:8			
	ø d	b	t2	l
...N/1	9.75	2.4	10.7	17
...N/1c	11.6	3	12.9	16.5
...N/1e	13	2.4	13.8	21
...N/1d	14	3	15.5	17.5
...N/1b	14.3	3.2	15.7	19.5
...N/2	17.28	3.2	18.2	24
...N/2a	17.28	4	18.9	24
...N/3	22	4	23.4	28
...N/4	25.46	4.78	27.8	36
...N/4b	25.46	5	28.2	36
...N/4a	27	4.78	28.8	32.5
...N/4g	28.45	6	29.3	38.5
...N/5	33.17	6.38	35.4	44
...N/5a	33.17	7	35.4	44
...N/6	43.05	7.95	46.5	51
...N/6a	41.15	8	44.2	42.5

代码 Code	锥度 1:5 Taper 1:5			
	ø d	b	t2	l
A10	9.85	2	10.9	11.5
B17	16.85	3	18.9	18.5
C20	19.85	4	22.0	21.5
Cs22	21.95	3	23.8	21.5
D25	24.85	5	27.9	26.5
E30	29.85	6	32.5	31.5
F35	34.85	6	37.5	36.5
G40	39.85	6	45.5	41.5





标准英制孔径 *Standard inch bores*

型号 Type	轴套 Hub	材料 Material	V	TA	DNC	S	E	ES	ED	DNH	Ad	AS	A	G	F	B	Bs	H	Hs	Sb	Sd	Js	K	M	C	N	L	KS	NM	D	P	W	
			A19	A	Al	x	x	x				x	x	x	x	x																	
A19/24	B													x		x																	
A19	A	GG	x	x				x	x	x			x																				
A19/24	B													x	x																		
A24	A	Al		x	x	x	x	x	x	x	x	x	x	x	x																		
A24/32	B															x	x																
A24	A	GG		x		x		x	x	x	x	x	x	x	x																		
A24/32	B																x																
A28	A	Al		x				x		x			x	x	x																		
A28/38	B																																
A28	A	GG								x			x	x	x																		
A28/38	B																																
A38	A	Al							x	x			x	x	x																		
A38/45	B																																
A38	A	GG												x	x																		
A38/45	B																																
A42	A	GG												x	x																		
A42/55	B																																
A48	A	GG												x	x																		
A48/60	B																																

型号 Type	轴套 Hub	材料 Material	G	F	K	M	C	N	L	NM	DS	D	P	W	WN	WA	WK
			A55	A	GG	x	x	x	x	x	x	x	x				
A55/70	B													x	x		
A65	A	GG			x	x	x	x	x				x				
A65/75	B														x		
A75	A	GG			x		x		x			x	x				
A75/90	B															x	
A90	A	GG							x			x	x				x

英制孔径尺寸 *Dimensions inch bores*

代码 Code	ø d [mm]	键槽 Keyway b [mm]	t2 [mm]	代码 Code	ø d [mm]	键槽 Keyway b [mm]	t2 [mm]	代码 Code	ø d [mm]	键槽 Keyway b [mm]	t2 [mm]
V	11.11 H7	3.18	12.34	G	22.22	4.75	24.7	C	38.07	9.55	43
TA	12.7	3.17	14.3	F	22.22	6.35	25.2	N	41.29	9.55	46.1
DNC	13.45 H7	3.17	14.9	B	25.37	4.78	27.8	L	44.45	11.11	49.5
S	15.87	3.97	17.9	BS	25.38	6.37	28.3	NM	47.625	12.73	53.4
E	15.87	3.17	17.5	H	25.4	4.78	27.8	DS	50.77	12.73	56.4
ES	15.88	4	17.7	SB	28.6	6.35	32.1	D	50.8	12.73	55.1
ED	15.89	4.75	18.3	SD	28.58	7.93	32.1	P	53.95	12.73	59.6
DNH	17.465	4.75	19.6	JS	31.75	6.35	34.62	W	60.37	15.87	68.8
Ad	19.02	3.17	20.7	K	31.75 K7	7.93	35.5	WN	73.025	19.05	83
AS	19.02	4.78	21.3	KS	31.75	7.93	36.6	WA	85.78	22.22	97.3
A	19.05	4.78	21.3	M	34.94	7.93	39	WK	92.08	22.22	103.3



可选购的花键孔径 *Available splines*

花键 DIN 5480 Spline DIN 5480	花键 DIN 5482 Spline DIN 5482	花键 SAE Spline SAE
N 20 x 1.25 x 14 x 9 G	A 17 x 14	16/32 x 9 J 498 B
N 25 x 1.25 x 18 x 9 G	A 28 x 25	16/32 x 11 J 498 B
N 30 x 2 x 14 x 9 G	A 30 x 27	16/32 x 13 J 498 B
N 35 x 2 x 16 x 9 G	A 35 x 31	16/32 x 15 J 498 B
N 40 x 2 x 18 x 9 H	A 40 x 36	16/32 x 21 J 498 B
N 45 x 2 x 21 x 9 G	A 45 x 41	16/32 x 23 J 498 B
N 50 x 2 x 24 x 9 G	A 48 x 44	16/32 x 27 J 498 B
N 55 x 2 x 26 x 9 G	A 50 x 45	12/24 x 14 J 498 B
N 60 x 2 x 28 x 9 G	A 58 x 53	12/24 x 17 J 498 B
N 70 x 3 x 22 x 9 G	A 70 x 64	8/16 x 13 J 498 B
N 80 x 3 x 25 x 9 G		1 3/4 x 6 J 498 B
N 90 x 3 x 28 x 9 G		

建议: 带花键孔的轴套采用夹紧式轴套!  
也可选配带固定螺钉。

**Coupling-hubs with spline are recommended as clamping-hub!** Available also with set screw.