鼓形齿式联轴器
Gear Couplings

无锡市万向联轴器有限公司
Wuxi Driveshafts Co., Ltd.

Introduction 企业简介 to Company

无锡万向联轴器有限公司（无锡万向）成立于1987年，专业从事十字轴式万向轴及各类鼓形齿式联轴器的研发，生产，销售和服务。同行业首家获得了ISO 9001质量体系认证。无锡万向设备先进，占地面积25,000m^2，现有员工近200人。

公司的产品年产量10,000余套，在国内市场占领先地位，并远销世界20多个国家和地区。

Founded in 1987, **Wuxi Driveshafts Co. Ltd (WDC)** is an ISO 9001 certified company that has been specializing in R & D, production, sales and service of universal joint shafts and gear couplings. WDC has a well–equipped facility covering an area of 25,000 m^2, combined with a dedicated workforce of about 200 employees.

With the annual output of over 10000 shaft assemblies, WDC commands a leading market share in China and has customers in over 20 different countries and regions worldwide.

你需要的质量，你需要的服务，你需要的解决方案。

The quality you expect. The services you deserve. The solutions you need.

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Words from 设计者

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Mr. Yu Ming, Chief Engineer

Nationally recognized senior engineer
Contributor to "Mechanical Design Manual" and "Mechanical Design Atlas"

鼓形齿联轴器是一种机械设备中使用的量大面广的基础件。随着对外开放的扩大，国内装备水平的提升，市场对鼓形齿联轴器的质量要求越来越高。国产齿式联轴器产品在不断发展进步的同时也暴露出某些问题和不足。多年来我国鼓形齿联轴器的市场需求在很大程度上是靠"以数量对质量"的形式在支撑。"从根本上提升国产鼓形齿联轴器质量"已经成为高端用户的共同呼声。国外市场需求也很旺盛。

为了不辜负国内外顾客的期望，我公司根据自身优势，从2005年起立项，着手研制、开发鼓形齿联轴器。几年来，我们从分析国内外相关标准入手，对其性能参数、结构设计、工艺方法、设备配置以及生产组织形式都进行了深入细致的试验研究，小批量产品经过衡钢、马钢、西航、大治、陕压、马来西亚Protrac、意大利EPR等国内外客户的试用，获得好评。现在正式推出"鼞鼞牌"鼓形齿联轴器系列产品。其技术特征为：

一、各系列产品性能指标和外联尺寸符合我国机械工业相关现行标准要求；
二、技术参数经过全面优化，更加科学合理；
三、内、外齿套材料均选用优质合金钢，调质处理；
四、齿面均作氮化处理，使齿面接触强度大幅度提高；
五、齿坯、齿形均为数控设备加工，加工细节堪称完善；
六、采用内齿轮齿根圆和外齿轮齿顶圆定心，定心保持性好；
七、对产品密封结构、元件有特别考虑，以提高对齿式联轴器来说至关重要的润滑效果；
八、内齿套法兰螺孔为立式加工中心加工，精度、位置度可满足铰制孔螺栓要求；
九、带中间接管的大型鼓形齿联轴器，对接部位采用自动埋弧焊机焊接，焊缝缺陷超声波探伤等级不低于二级；
十、带中间接管的鼓形齿联轴器，出厂产品动平衡精度等级为G16～G40之间，用户有更高要求，可特别提出。(试件限重3000kg，限长6.5m)。

说 the Designer

Gear couplings

Gear couplings are transmission components that are extensively used on mechanical equipment. As China becomes increasingly globalized the level of quality for mechanical equipments has been raised to international standards, therefore the market demands higher quality gear couplings.

To satisfy the market needs, Wuxi Driveshafts has taken on a research project in 2005 to develop crown tooth gear couplings. Over the years, we have analyzed both domestic and foreign industrial standards and have completed extensive research and testing in areas of mechanical properties, structural designs, manufacturing methods and equipments, as well as production organization. Our gear coupling products in prototype production have been trial used and approved by domestic and foreign customers. We now launch the BC Crown Tooth Gear Couplings that have the following features:

1. Conformity to the national industrial standards of the country in product properties and external connections.
2. Enhanced technical specifications through overall optimization in design.
3. The use of fine alloy steel for sleeves and hubs, quenching and tempering treated.
4. Enhanced strength of tooth surface through nitriding treatment.
5. Precision machining with CNC equipment with perfect tooth blanks and profiles.
6. Perfect alignment through centering via dedendum circle of inner gear and addedendum circle of outside gear.
7. Special design of sealing system and components, which serves to greatly enhance the lubrication effect, a critical element for gear couplings.
8. Bolt holes of Sleeve flanges are machined with precision that can satisfy the requirement of reamed bolt holes.
9. Automatic sub–arc welding for gear spindles with floating shafts achieving Grade II or better weld strength on ultrasonic flaw detection.
10. All gear couplings with floating shafts leave the company with a balancing accuracy range of Grade G16 ~ G40. If higher balancing grade is required, please submit your request. (Units to be balanced are limited to 3000kg in weight and 6500mm in length).

数控设备加工内外齿
Tooth profiling by CNC machine

自主研发的万向轴专用埋弧焊机
Submerged arc welding and gas shielded welding machines

微机控制氮化处理
Nitriding

Manufacturing & Testing
生产及检测设备 Equipment

材料成份分析
Chemical analysis

材料金相分析
Metallograph analysis

磁粉探伤
M.P.T.

材料拉伸实验
Tensile test

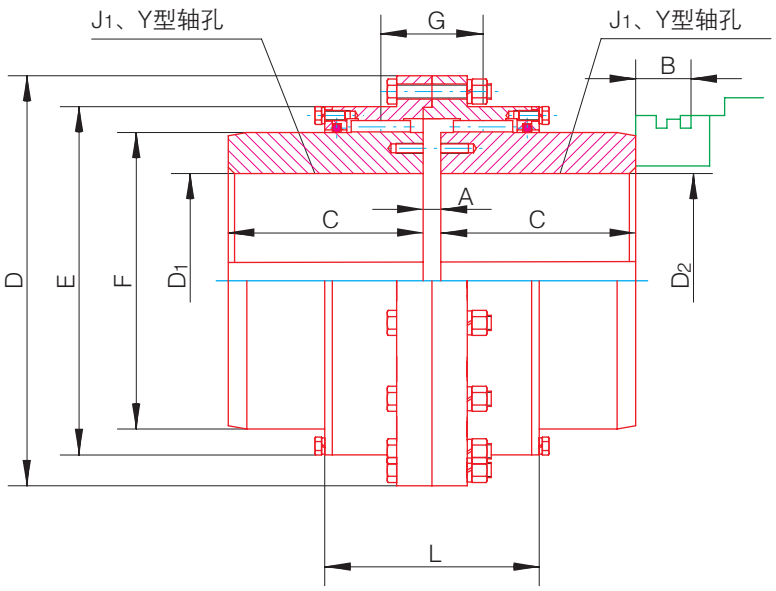
成品动平衡
Balancing test

超声波探伤
U.T.

GII CL Gear Couplings

GII CL型鼓形齿

A型（适用于GII CL1~CL13）



B型（适用于GII CL14~CL25）

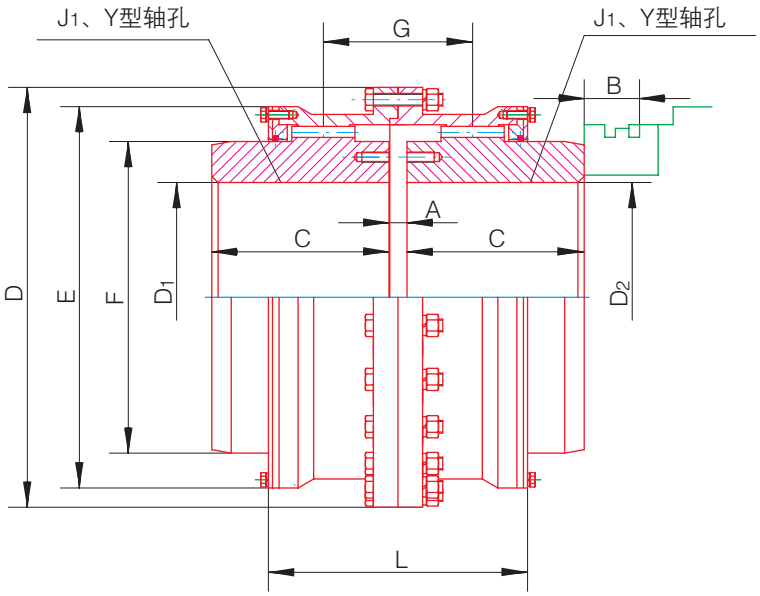


表1 GII CL型基本参数和主要尺寸：

型 号	公称扭矩 Tn (kN.m)	许用转速 [n] (rpm)	轴孔直径 D1、D2	轴孔长度		D	E	F	G	A	L	B	润滑脂用量 ml	重量 kg
				Y	J1									
				C										
			mm											
GII CL1	0.4	4000	16 ~ 35	42 ~ 82	38 ~ 60	103	71	50	36	8	76	38	51	5.1
GII CL2	0.71	4000	20 ~ 45	52 ~ 112	44 ~ 84	115	83	60	42	8	88	42	70	6.7
GII CL3	1.12	4000	22 ~ 56	52 ~ 112	44 ~ 84	127	95	75	44	8	90	42	68	9.6
GII CL4	1.8	4000	38 ~ 65	82 ~ 142	60 ~ 107	149	116	90	49	8	98	42	87	17.4
GII CL5	3.15	4000	40 ~ 75	112~142	84~107	167	134	105	55	10	108	42	125	26.6
GII CL6	5	4000	45 ~ 90	112 ~ 172	84 ~ 132	187	153	125	56	10	110	42	148	38.7
GII CL7	7.1	3750	50 ~ 100	112 ~ 212	84 ~ 167	204	170	140	60	10	118	42	175	58.2
GII CL8	10	3300	55 ~ 110	112 ~ 212	84 ~ 167	230	186	155	67	12	142	47	268	73.6
GII CL9	16	3000	60 ~ 130	142 ~ 252	107 ~ 202	256	212	180	69	12	146	47	310	117
GII CL10	22.4	2650	65 ~ 150	142 ~ 252	107 ~ 202	287	239	200	78	14	164	47	472	144
GII CL11	35.5	2350	70 ~ 170	142 ~ 302	107 ~ 242	325	276	235	81	14	170	47	550	300
GII CL12	50	2100	75 ~ 200	142 ~ 352	107 ~ 282	362	313	270	89	16	190	49	695	348
GII CL13	71	1850	150 ~ 220	252 ~ 352	202 ~ 282	412	350	300	98	18	208	49	1019	440
GII CL14	112	1650	170 ~ 250	302 ~ 410	242 ~ 330	462	418	335	172	22	296	63	3900	682
GII CL15	180	1500	190 ~ 280	352 ~ 470	282 ~ 380	512	465	380	182	22	316	63	3700	977
GII CL16	250	1300	220 ~ 320	352 ~ 470	282 ~ 380	580	522	430	209	28	354	67	4500	1828
GII CL17	355	1200	250 ~ 360	410 ~ 550	330 ~ 450	644	582	490	198	28	364	67	4900	2676
GII CL18	500	1050	280 ~ 400	470 ~ 650	380 ~ 540	726	654	540	222	28	430	75	7000	3560
GII CL19	710	950	300 ~ 460	470 ~ 650	380 ~ 540	818	748	630	232	32	440	75	8900	4975
GII CL20	1000	800	360 ~ 530	550 ~ 800	450 ~ 680	928	832	720	247	32	470	75	11000	7159
GII CL21	1400	750	400 ~ 600	650 ~ 800	540 ~ 680	1022	924	810	255	40	490	75	13000	8448
GII CL22	1800	650	450 ~ 670	650 ~ 900	540 ~ 780	1134	1028	915	262	40	510	75	16000	13401
GII CL23	2500	600	530 ~ 750	800 ~ 900	680 ~ 780	1282	1174	1030	299	50	580	80	28000	13401
GII CL24	3550	550	560 ~ 850	800 ~ 1000	680 ~ 880	1428	1320	1175	317	50	610	80	33000	18835
GII CL25	4500	460	670 ~ 1000	900 ~ 1000	780 ~ 1100	1644	1538	1390	325	50	620	80	43000	27797

注1: 重量是指实心轴的重量。

注2: 转动惯量常根据实际选用轴孔尺寸计算。

G CLD Gear Couplings

G CLD型鼓形齿

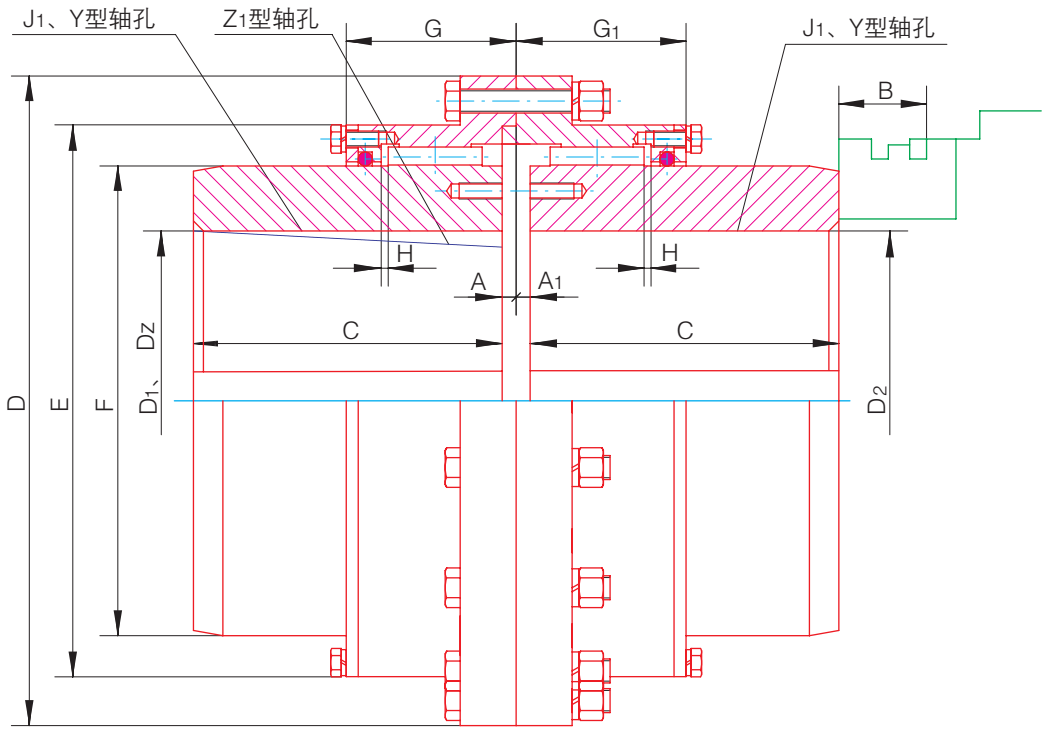


表1 G CLD型基本参数和主要尺寸：

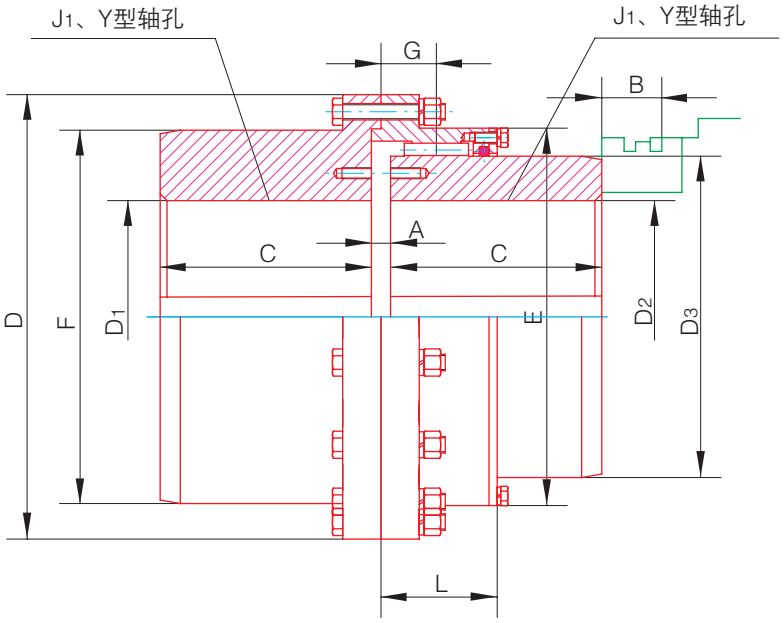
型 号	公称扭矩 Tn (kN.m)	许用转速 [n] (rpm)	轴孔直径 D1、D2	轴孔长度 Y	轴孔长度 J1	D	E	F	A	A1	G	G1	H	B	润滑脂容量 kg.m²	转动惯量 ml	重量 kg
				C													
			mm														
GCLD1	1.12	4000	22,24 25,28 30,32,35,38 40,42,45,48,50,55,56	52 62 82 112	38 44 60 84	127	95	75	27	6	66	45	2	42	107	0.041 0.041 0.044 0.047	7.2 7.2 7.8 9.6
GCLD2	1.8	4000	38 40,42,45,48,50,55,56 60,65,63	82 112 142	60 84 107	149	116	90	29.5	6.5	70	49	2	42	137	0.085 0.097 0.106	11.2 14 16.4
GCLD3	3.15	4000	40,42,45,48,50,55,56 60,70,75,63,71	112 142	84 107	167	134	105	35	7	80	54	2.5	42	201	0.16 0.19	17.2 22.4
GCLD4	5	4000	45,48,50,55,56 60,70,75,63,71 80,85,90	112 142 172	84 107 132	187	153	125	33.5	7.5	81	55	2.5	42	238	0.29 0.33 0.38	25.2 26.4 35.6
GCLD5	7.1	3750	50,55,56 60,65,70,75,63,71 80,85,90,95 100	112 142 172 212	84 107 132 167	204	170	140	38.5	7.5	89	59	2.5	42	298	0.45 0.51 0.58 0.67	31.6 38 44.6 53.9
GCLD6	10	3300	55,56, 60,65,70,75,63,71 80,85,90,95 100,110	112 142 172 212	84 107 132 167	230	186	155	43.5	8.5	106	71	3	47	465	0.75 0.84 0.94 1.07	40.5 49.8 56.3 67.5
GCLD7	16	3000	60,63,65,70,71,75 80,85,90,95 100,110,120 130	142 172 212 252	107 132 167 202	256	212	180	48	9	112	73	3	47	561	1.43 1.60 1.85 2.11	63.9 74.7 88 106.7
GCLD8	22.4	2650	65,70,71,75 80,85,90,95 100,110,120 130,140,150	142 172 212 252	107 132 167 202	287	239	200	42.5	8.5	112	82	3.5	47	734	2.24 2.51 2.88 3..25	81.7 95.5 114 123
GCLD9	35.5	2350	70,71,75 80,85,90,95 100,110,120 130,140,150 160,170	142 172 212 252 302	107 132 167 202 242	325	276	235	51.5	9.5	125	85	3.5	47	956	4.31 4.83 5.53 6.24 7.08	112 130 156 181 212
GCLD10	50	2100	75 80,85,90,95 100,110,120 130,140,150 160,170,180 190,200	142 172 212 252 302 352	107 132 167 202 242 282	362	313	270	65	11	149	95	4	49	132	7.88 8.29 9.52 10.25 12.22 13.69	161 172 206 239 280 319

注1: 转动惯量与重量包括轴伸在内。
注2: B为跟换密封所需要的尺寸。

GII CLZ Gear Couplings

GII CLZ型鼓形齿

A型（适用于G Ⅱ CLZ1 ~ G Ⅱ CLZ13）



B型（适用于G Ⅱ CLZ14 ~ G Ⅱ CLZ25）

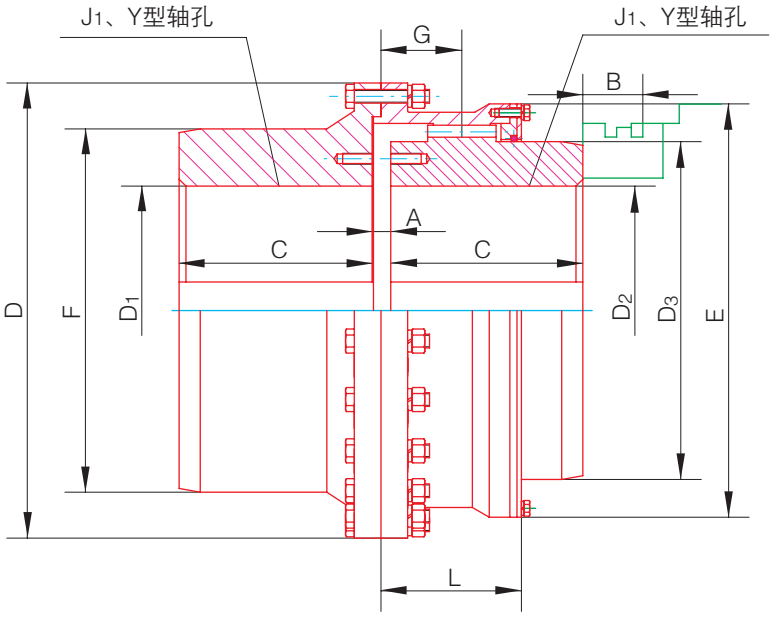


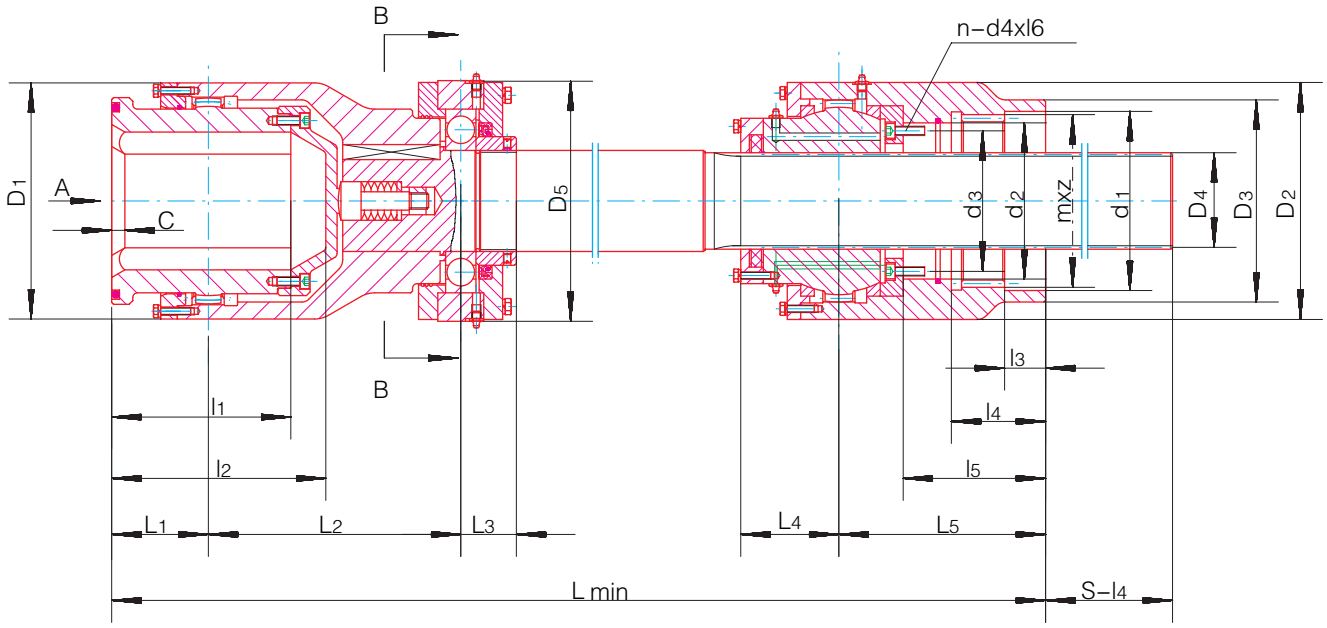
表1 GII CLZ型基本参数和主要尺寸：

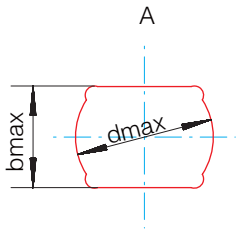
型 号	公称扭矩 Tn (kN.m)	许用转速 [n] (rpm)	轴孔直径 D1、D2	轴孔长度 Y	轴孔长度 J1	D	D3	F	G	A	L	E	B	润滑脂用量 ml	重量 kg
				C											
			mm												
GII CLZ1	0.4	4000	16 ~ 35	42 ~ 112	38 ~ 84	103	50	71	8	8	38	71	38	31	7
GII CLZ2	0.71	4000	20 ~ 45	52 ~ 142	44 ~ 107	115	60	83	8	8	44	83	42	42	7
GII CLZ3	1.12	4000	22 ~ 56	52 ~ 142	44 ~ 107	127	75	95	8	8	45	95	42	42	11
GII CLZ4	1.8	4000	38 ~ 65	82 ~ 172	60 ~ 132	149	90	116	8	8	49	116	42	53	18
GII CLZ5	3.15	4000	40 ~ 75	112~172	84~132	167	105	134	10	10	54	134	42	77	24
GII CLZ6	5	4000	45 ~ 90	112 ~ 212	84 ~ 167	187	125	153	10	10	55	153	42	91	39
GII CLZ7	7.1	3750	50 ~ 100	112 ~ 212	84 ~ 167	204	140	170	10	10	59	170	42	108	58
GII CLZ8	10	3300	55 ~ 110	112 ~ 212	84 ~ 167	230	155	186	12	12	71	186	47	161	74
GII CLZ9	16	3000	60 ~ 130	142 ~ 252	107 ~ 202	256	180	212	12	12	73	212	47	184	116
GII CLZ10	22.4	2650	65 ~ 150	142 ~ 252	107 ~ 202	287	200	239	14	14	82	239	47	276	144
GII CLZ11	35.5	2350	110 ~ 170	212 ~ 302	167 ~ 242	325	235	250	14	14	85	276	47	322	230
GII CLZ12	50	2100	130 ~ 200	252 ~ 352	202 ~ 282	362	270	286	16	16	95	313	49	404	348
GII CLZ13	71	1850	150 ~ 220	252 ~ 352	202 ~ 282	412	300	322	18	18	104	350	49	585	438
GII CLZ14	112	1650	170 ~ 250	302 ~ 410	242 ~ 330	462	—	420	22	22	148	335	63	1600	655
GII CLZ15	180	1500	190 ~ 280	352 ~ 470	282 ~ 380	512	—	465	22	22	158	380	63	2100	946
GII CLZ16	250	1300	220 ~ 320	352 ~ 470	282 ~ 380	580	—	522	28	28	177	430	67	2500	1232
GII CLZ17	355	1200	250 ~ 360	410 ~ 550	330 ~ 450	644	—	582	28	28	182	490	67	2700	1828
GII CLZ18	500	1050	280 ~ 400	470 ~ 650	380 ~ 540	726	—	658	28	28	215	540	75	3900	2674
GII CLZ19	710	950	300 ~ 460	470 ~ 650	380 ~ 540	818	—	748	32	32	220	630	75	5000	3565
GII CLZ20	1000	800	360 ~ 530	550 ~ 800	450 ~ 680	928	—	838	32	32	235	720	75	6200	5198
GII CLZ21	1400	750	400 ~ 600	650 ~ 800	540 ~ 680	1022	—	928	40	40	245	810	75	7000	7124
GII CLZ22	1800	650	450 ~ 670	650 ~ 900	540 ~ 780	1134	—	1036	40	40	255	915	75	8700	8978
GII CLZ23	2500	600	530 ~ 750	800 ~ 900	680 ~ 780	1282	—	1178	50	50	290	1030	80	15000	13124
GII CLZ24	3550	550	560 ~ 850	800 ~ 1000	680~880	1428	—	1322	50	50	305	1175	80	18000	18659
GII CLZ25	4500	460	670 ~ 1000	900 ~ 1000	780 ~ 1100	1644	—	1538	50	50	310	1390	80	23000	27797

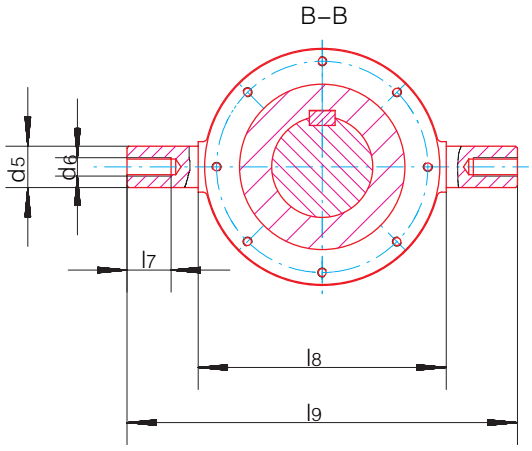
注1: 重量是指实心轴的重量。

注2: 转动惯量常根据实际选用轴孔尺寸计算。

GSL-Z型正装贯通式鼓形齿联轴器







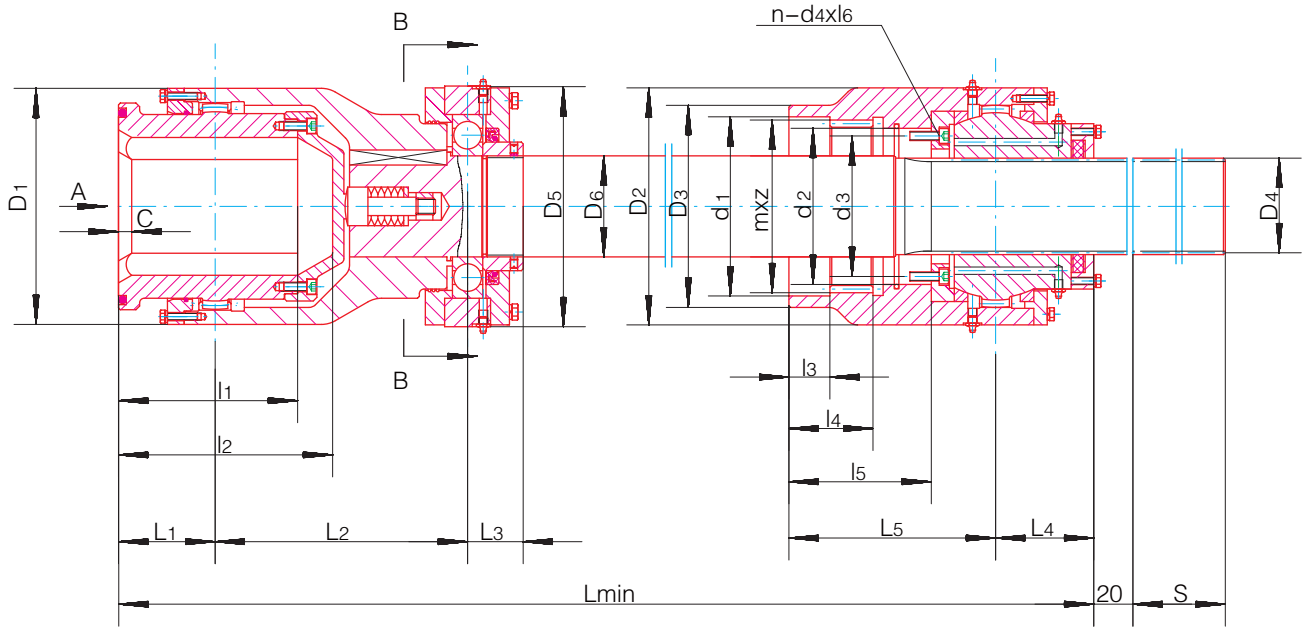
GSL–Z型正装贯通式鼓形齿联轴器的基本参数和主要尺寸

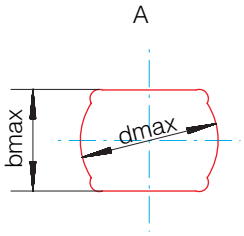
型 号	公称扭矩Tn (kN.m)	轴线折角β (°)	伸缩量S mm	外形尺寸 mm											轧辊端联接尺寸 mm						
				Lmin	D1	D2 h8	D3	D4	D5	L1	L2	L3	L4	L5	dmax 公称尺寸	dmax 极限偏差	bmax 公称尺寸	bmax 极限偏差	l1	l2	Cx30°
GSL–Z200	31.5	≤1.5°	500	710	200	200	170	81	200	90	250	50	80	190	125		95		135	175	10
GSL–Z250	50			780	250	258	220	100	250	105	280	60	90	195	150	+0.20 +0.10	110	+0.20 +0.10	195	235	15
GSL–Z285	80			850	285	270	245	115	270	115	315	60	105	205	165		120		205	245	
GSL–Z300	100		600	855	300	280	250	125	280	115	315	62	108	205	180		130		210	250	
GSL–Z335	140			975	335	330	280	135	300	130	360	65	135	235	195	+0.25 +0.15	150	+0.25 +0.15	210	255	
GSL–Z355	180			1005	355	350	310	162	330	130	360	75	145	245	195		150		215	255	
GSL–Z390	224			1070	390	380	335	174	360	140	390	80	155	255	220		170		230	275	25
GSL–Z405	250			1070	405	400	340	174	390	140	390	80	155	255	240	+0.35 +0.20	180	+0.35 +0.20	240	285	
GSL–Z440	315			1140	440	440	375	198	410	150	430	85	165	260	260		190		250	295	
GSL–Z475	400			1180	475	480	415	210	450	155	460	85	165	265	280		210		272	317	
GSL–Z510	500		700	1280	510	520	430	222	480	160	490	90	180	310	300		230		300	355	30
GSL–Z550	630			1300	550	550	470	246	510	160	510	95	180	310	320		240		320	375	
GSL–Z580	750			1315	580	560	485	258	525	165	515	98	185	320	340	+0.40 +0.25	260	+0.40 +0.25	325	388	
GSL–Z610	840			1550	610	610	520	270	580	225	580	105	210	360	400		300		420	470	35
GSL–Z660	1050			1690	660	660	540	282	630	245	640	115	230	390	420		320		440	500	
GSL–Z710	1300			1800	710	710	580	296	680	265	680	125	250	410	460		350		480	540	40
GSL–Z760	1600			1920	760	760	620	328	740	290	730	135	260	430	500		380		530	590	

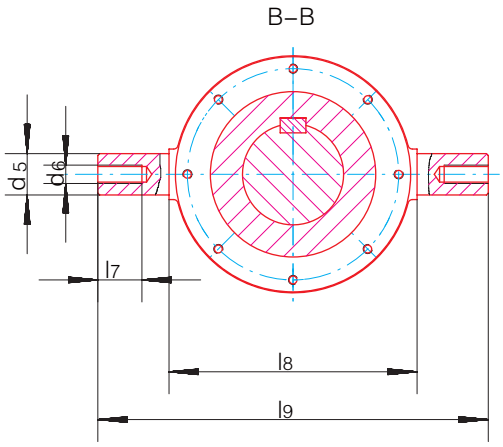
型 号	减速机端联接尺寸 mm								耳轴尺寸 mm				转动惯量 kg.m²		质量 kg	
	d1 (F8)	d2 (H7)	d3 (js10)	m x Z	l3	l4	l5	n–d4 x l6	d5 (f8)	D6 x l7	l8	l9	Lmin	增长 100mm	Lmin	增长 100mm
GSL–Z200	155	130	110	4 x 36	35	85	120	6–M10 x 25	40	M20 x 35	200	345	0.75	0.024	150	4.77
GSL–Z250	195	170	150	4 x 46	35	90	125	8–M10 x 25	45	M20 x 35	270	425	1.62	0.050	207	6.8
GSL–Z285	220	195	175	4 x 46	40	95	130	10–M10 x 25	50	M20 x 40	278	442	2.95	0.090	291	8.88
GSL–Z300	220	195	175	5 x 42	45	100	132	12–M12 x 30	50	M24 x 45	292	487	3.62	0.110	322	9.48
GSL–Z335	245	220	200	5 x 46	50	100	150	12–M12 x 30	55	M24 x 45	293	488	6.45	0.190	460	13.87
GSL–Z355	260	240	220	5 x 50	50	100	150	12–M12 x 30	55	M24 x 45	312	505	7.99	0.290	507	18.67
GSL–Z390	280	260	240	5 x 54	50	100	150	12–M12 x 30	60	M24 x 50	360	570	12.36	0.380	650	19.98
GSL–Z405	305	280	260	5 x 58	50	110	155	12–M12 x 30	60	M24 x 50	390	580	16.09	0.480	785	23.2
GSL–Z440	336	306	276	6 x 54	50	115	155	12–M16 x 40	65	M24 x 50	420	650	20.23	0.650	836	26.67
GSL–Z475	365	330	300	6 x 58	50	115	155	12–M16 x 40	70	M36 x 70	460	684	29.11	0.840	1032	29.84
GSL–Z510	390	345	315	6 x 62	50	130	170	12–M16 x 40	80	M36 x 70	500	770	49.78	1.200	1531	37.01
GSL–Z550	400	370	320	6 x 64	50	130	170	12–M16 x 40	85	M36 x 70	520	800	58.12	1.480	1537	39.15
GSL–Z580	405	370	320	6 x 66	50	135	175	12–M16 x 40	90	M42 x 80	540	850	74.39	1.730	1769	41.04
GSL–Z610	455	420	370	8 x 54	50	160	210	12–M20 x 50	100	M42 x 80	600	940	115.91	2.250	2492	48.34
GSL–Z660	485	440	400	8 x 58	60	180	230	12–M20 x 50	100	M42 x 80	650	990	173.04	2.920	3178	53.65
GSL–Z710	530	475	430	10 x 50	60	190	240	12–M20 x 50	110	M42 x 80	700	1070	232.71	3.850	3693	61.18
GSL–Z760	570	515	470	10 x 54	60	200	250	12–M20 x 50	120	M42 x 80	750	1150	331.54	5.150	4592	71.27

注1: Lmin为联轴器允许制造的最短长度尺寸。实际需要最短长度尺寸以及伸缩量可根据用户需要确定，但必须≥Lmin。
注2: 表中的质量和转动惯量是按Lmin(不包含伸缩量)计算的近似值。
注3: 联轴器总长为Lmin+(S–l4)。

GSL-F型反装贯通式鼓形齿联轴器







GSL– F型反装贯通式鼓形齿联轴器的基本参数和主要尺寸

型 号	公称扭矩Tn (kN.m)	轴线折角β (°)	伸缩量S mm	外形尺寸 mm												轧辊端联接尺寸 mm						
																dmax		bmax				
				Lmin	D1	D2 h8	D3	D4	D5	D6	L1	L2	L3	L4	L5	公称尺寸	极限偏差	公称尺寸	极限偏差	l1	l2	Cx30°
GSL–F200	31.5	≤1.5°	500	960	200	200	170	81	200	81	90	250	50	80	190	125		95		135	175	10
GSL–F250	50			1050	250	258	220	100	250	100	105	280	60	90	195	150	+0.20	110	+0.20	195	235	
GSL–F285	80			1140	285	270	245	115	270	115	115	315	60	105	205	165	+0.10	120	+0.10	205	245	
GSL–F300	100		600	1165	300	280	250	125	280	125	115	315	62	108	205	180		130		210	250	15
GSL–F335	140			1315	335	330	280	135	300	135	130	360	65	135	235	195	+0.25	150	+0.25	210	255	
GSL–F355	180			1360	355	350	310	162	330	162	130	360	75	145	245	195	+0.15	150	+0.15	215	255	
GSL–F390	224			1450	390	380	335	174	360	174	140	390	80	155	255	220		170		230	275	
GSL–F405	250			1450	405	400	340	174	390	174	140	390	80	155	255	240	+0.35	180	+0.35	240	285	25
GSL–F440	315			1540	440	440	375	198	410	198	150	430	85	165	260	260	+0.20	190	+0.20	250	295	
GSL–F475	400			1600	475	480	415	210	450	210	155	460	85	165	265	280		210		272	317	
GSL–F510	500		700	1750	510	520	430	222	480	222	160	490	90	180	310	300		230		300	355	
GSL–F550	630			1770	550	550	470	246	510	246	160	510	95	180	310	320		240		320	375	30
GSL–F580	750			1790	580	560	485	258	525	258	165	515	98	185	320	340	+0.40	260	+0.40	325	388	
GSL–F610	840			2060	610	610	520	270	580	270	225	580	105	210	360	400	+0.25	300	+0.25	420	470	35
GSL–F660	1050			2230	660	660	540	282	630	282	245	640	115	230	390	420		320		440	500	
GSL–F710	1300			2380	710	710	580	296	680	296	265	680	125	250	410	460		350		480	540	40
GSL–F760	1600			2540	760	760	620	328	740	328	290	730	135	260	430	500		380		530	590	

型 号	减速机端联接尺寸 mm								耳轴尺寸 mm				转动惯量 kg.m²		质量 kg	
	d1 (F8)	d2 (H7)	d3 (js10)	m x Z	l3	l4	l5	n–d4 x l6	d5 (f8)	D6 x l7	l8	l9	Lmin	增长 100mm	Lmin	增长 100mm
GSL–F200	155	130	110	4 x 36	35	85	120	6–M10 x 25	40	M20 x 35	200	345	0.75	0.024	150	4.77
GSL–F250	195	170	150	4 x 46	35	90	125	8–M10 x 25	45	M20 x 35	270	425	1.62	0.050	207	6.8
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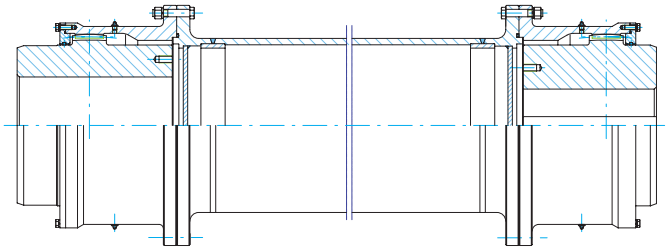
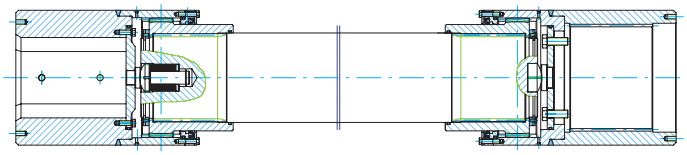
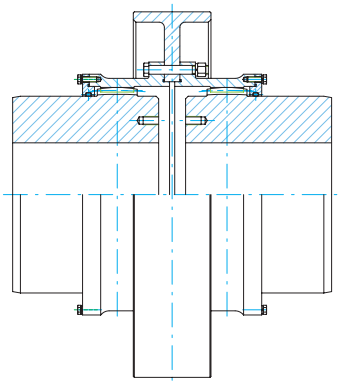
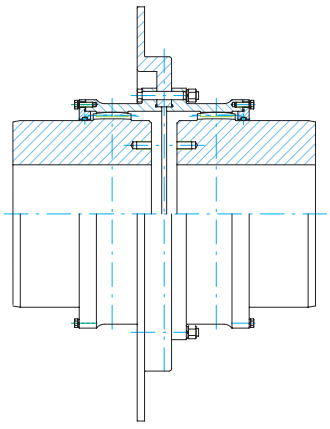
GSL–F760	570	515	470	10 x 54	60	200	250	12–M20 x 50	120	M42 x 80	750	1150	331.54	5.150	4592	71.27

注1: Lmin为联轴器允许制造的最短长度尺寸。实际需要最短长度尺寸以及伸缩量可根据用户需要确定，但必须≥Lmin。
注2: 表中的质量和转动惯量是按Lmin(不包含伸缩量)计算的近似值。
注3: 联轴器总长为Lmin+(S+20)。

鼓形齿联轴器的其他派生结构型式

名　称	图　示
中间带接管鼓形齿	
中间带接轴鼓形齿	
带制动轮鼓形齿	
带制动盘鼓形齿	

我公司可按客户要求来图制作，技术问题可与我公司技术人员联系。
We can manufacture as per customer's request. For further questions, please contact us.

The Selection 选用说明 of Gear Couplings

这里只根据JB/T 8854.2–2001标准，对G Ⅱ CL系列及其派生型式的鼓型齿联轴器的选用进行说明。对于其它类型产品的选择，需要时请向我公司技术部咨询。

一般来讲，鼓型齿联轴器在选用时要进行以下三个方面的校核：

1.强度校核

联轴器的强度要满足：Tc≤Tn……(1)

式(1)中：

Tc —计算转矩，N·m；

Tn —公称转矩，N·m（从表1查得）；

1.1计算转矩Tc —由式(2)、(3)、(4)求得

$$Tc=\frac{K}{K_1}\cdot T \quad \cdots\cdots\cdots\cdots (2)$$

$$T=9550\frac{P_w}{n} \quad \cdots\cdots\cdots\cdots (3)$$

或 $$T=7020\frac{P_H}{n} \quad \cdots\cdots\cdots\cdots (4)$$

式（2）（3）（4）中：

T — 理论转矩，N·m；

Pw — 驱动功率，kw；

PH — 驱动功率，hp；

n —工作转速，r/min；

K — 工作状况系数；(见表1)

K1 — 转矩修正系数；(见图1)

The description provided below is limited to the selection of GIICL standard gear couplings as per Standard JB/ZQ 4381–91 and their derivative structural designs. For other types, please consult our Engineering Department.

Generally, gear couplings are selected according to the following information:

1. Strength

Strength of gear coupling must satisfy:)Tc≤Tn……(1)

Where

Tc —Calculated torque，N·m；

Tn —Nominal Torque，N·m（Refer to Table 1）；

1.1Calculated torque Tc —Acquired from formula(2)、(3)、(4) below:

$$Tc=\frac{K}{K_1}\cdot T \quad \cdots\cdots\cdots\cdots (2)$$

$$T=9550\frac{P_w}{n} \quad \cdots\cdots\cdots\cdots (3)$$

or $$T=7020\frac{P_H}{n} \quad \cdots\cdots\cdots\cdots (4)$$

Where：

T —Theoretical torque，N·m；

Pw —Driving power，kw；

PH — Driving power，hp；

n —Operating speed，r/min；

K — Service factor；(Refer to Table 1)

K1 — Modified service factor；(Refer to Graph 1)

1.1.1转矩修正系数K1，由图1 查得 Modified service factor K1 (Refer to Graph 1)

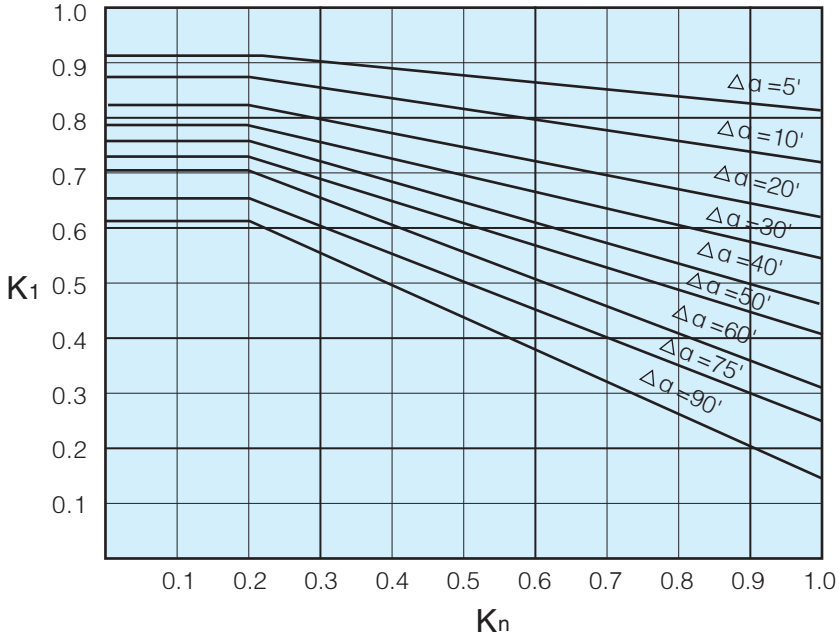


图1 转矩修正系数K1

Graph 1 Modified Service Factor

图中，$$Kn=\frac{n}{[n]} \quad \cdots\cdots\cdots\cdots (5)$$

式(5)中：

Kn—— 转速系数；

[n] —— 许用转速，r/min(从表1中查得)。

图中的△α为工作中可能出现的最大轴线折角。由实际使用状况决定或按1.5°(最大值)；

Where：

Kn—— Speed factor；

[n]—— Permissible speed, rpm (Refer to Table 1)

△α in the Graph is the maximum possible deflection angle, which is determined by actual application or the maximum angle of 1.5°

The Selection of Gear Couplings 选用说明

1.1.2 工作状况系数K应根据联轴器的实际工作状况（受冲载荷的大小），对照表1确定。

Service factor K is determined by the load sustained by the coupling in actual application (Refer to Table 1)

工作机械	Equipment	工作状况系数(Service Factor)K
挖掘设备	Excavating equipment	1.4 – 2.0
采矿、碎石设备	Mining, gravel equipment	1.6 – 2.24
化工设备	Chemical equipment	1.25 – 1.8
输送设备	Conveying equipment	1.25 – 1.8
鼓风、通风设备	Blast, ventilation equipment	1.25 – 1.5
发电机及转换器	Generators and converters	1.4 – 2.24
橡胶及塑料加工设备	Rubber and plastic processing equipment	1.6 – 1.8
木材加工设备	Lumber processing equipment	1.4 – 1.8
炼钢设备	Steel–making equipment	1.4 – 2.0
起重设备	Lifting equipment	1.25 – 1.6
金属加工设备	Metal processing equipment	1.6 – 1.8
研磨、粉碎设备	Grinding, crushing equipment	2.0
食品加工机械	Food processing equipment	1.25 – 1.8
造纸机械	Paper mills	1.6 – 2.0
压力机械	Presses	1.8 – 2.5
泵类	Pumps	1.25 – 2.0
纺织机械	Textile machinery	1.6
压缩机	Compressors	1.6 – 2.0
轧制设备	Rolling equipment	1.4 – 2.0

2. 联轴器的工作转速n，必须同时满足：

$n \leqslant [n]$

$n \leqslant 0.75\ nk$

或$n \geqslant 1.35\ nk$

式中：

nk — 联轴器1阶临界转速，r/min；

2.1 nk的计算方法

2.1.1 带中间轴的联轴器，nk按式(6)计算：

$$nk = 1.2\times10^{8}\frac{D}{A^{2}}\ \text{r/min；}\cdots\cdots\cdots(6)$$

式(6)中：

D — 中间轴直径，mm；

A — 两端外齿轴套齿宽中点间的距离，mm；

2.1.2 带中间接管的联轴器，nk按式(7)计算：

$$nk = 1.2\times10^{8}\frac{\sqrt{D^{2}+d^{2}}}{A^{2}}\ \text{r/min；}\cdots\cdots\cdots(7)$$

式(7)中：

D — 中间接管的外径，mm；

d — 中间接管的内径，mm；

2. Speed of couplings n, which must satisfy:

$n \leqslant [n]$

$n \leqslant 0.75\ nk$

or $n \geqslant 1.35\ nk$

Where：

nk — Order 1 critical speed of coupling, rpm

2.1 Calculation of nk

2.1.1 For floating shaft, nk is calculated using formula (6)

$$nk = 1.2\times10^{8}\frac{D}{A^{2}}\ \text{r/min；}\cdots\cdots\cdots(6)$$

Where：

D — Diameter of floating shaft, mm

A — The distance between the mid points of tooth profiles，mm;

2.1.2 For couplings with spacer, nk is calculated using formula (7)

$$nk = 1.2\times10^{8}\frac{\sqrt{D^{2}+d^{2}}}{A^{2}}\ \text{r/min；}\cdots\cdots\cdots(7)$$

Where：

D — Outer diameter of spacer, mm;

d — Inner diameter of spacer, mm;

3. 干涉的验算：

联轴器工作时，如果两被联轴线的同轴度误差过大，使联轴器角补偿量△α超过许用值，联轴器的内外齿套和其他零件间会因相互的机械干涉而造成损坏。这是齿式联轴器最主要的损坏起因之一。所以在选型时一定要根据联轴器与被联轴器械的空间几何关系，计算出可能出现的最大△α，并满足：△α≤1.5°（负载时），△α≤5°（空载时）。

3. Calculation of Interference:：

When the coupling and the connected equipment has too much angular misalignment and the angle offset △α exceeds the permissible deflection angle, the interference of geared sleeves and hubs with other components may cause damages on the gear couplings. This is a major cause of failure on gear couplings. Therefore, it is important to find out the maximum angle misalignment △α according to the geometric space between the gear coupling and its connected components, and make sure: △α≤1.5°（with load），and △α≤5°（without load）。

Installation 安装与维护 and Maintenance

一、正确地对中是保证长寿命的关键：

鼓形齿联轴器能适应一定的角度变化以及轴向长度调整。但其工作角度越小，其工作寿命越长。因此应该尽可能地保证鼓形齿的两个半联轴器的轴心在一条直线上；可以使用激光调整器（定位器）以及其他的调整（定位）工具来缩小安装误差，从而达到最佳的安装状态。

I. Proper alignment is the basis to insure longer service life of gear couplings.

Gear couplings are designed to accommodate certain deflection angle and length compensation. However, the less the deflection angle of the gear coupling, the longer its service life. Therefore it is important to keep the centerlines of the sleeve and hub of the coupling in alignment as accurate as possible. Laser alignment locators or other aligning tools may be used to minimize the misalignment during installation.

二、良好的润滑是保证万向轴长期运行的前提：

1. 联轴器安装前应该用含EP添加剂的锂基润滑脂充分润滑，例如Esso EP, Mobil Temp 78. 可供选择的该类润滑油种类繁多，几乎所有油脂供应商都有专用的或用于类似工况的产品。需要注意的是：不同类型的油脂不能混用；同时型号相同但不同厂家生产的润滑脂在使用之前需要检查其匹配性能。对特殊工况，比如高速、超高温度、湿度较大或多水等等，请跟我们联系获取进一步的技术支持。

II. Good lubrication is the key to insure longer service life of gear couplings.

1. Before installation, gear couplings should be adequately lubricated using lithium–based grease containing EP additive, such as Esso EP, Mobil Temp 78. Please note that different types of greases should not be mixed together. Even if greases of the same type but by different producers should be inspected to make sure that they match in properties. For special applications, such as high speed, ultra–high temperature, extreme dampness or water, please contact us for technical consultation.

2. 外齿轴套安装到轴伸上，两个内齿圈在用螺栓紧固之前，要在法兰端面均匀涂抹密封胶水；连接螺栓（绞制螺栓、等级8.8级）的拧紧力矩参照下表：

螺栓规格	拧紧力矩(N.m)
M8	18
M10	36
M12	65
M16	150

螺栓规格	拧紧力矩(N.m)
M18	220
M22	400
M24	520

2. Put the gear sleeves on the gear hubs. Apply sealing glue evenly onto the flange faces before bolting the center flanges. Refer to the table below for the tightening torques of the bolts (reamed bolts, Grade 8.8)

Bolt Sizes	Tightening Torque (N.m)
M8	18
M10	36
M12	65
M16	150

Bolt Sizes	Tightening Torque (N.m)
M18	220
M22	400
M24	520

3. 联轴器安装完成后，应通过注油嘴注满润滑脂，直至密封圈处有润滑脂溢出为止。

4. 联轴器使用三个月后应彻底清洗更换润滑脂；之后清洗更换润滑脂周期可延长至6个月但最多不能超过1年。每月至少检查联轴器内润滑脂存量一次，发现不足及时补充。

正确的安装以及良好的润滑是保证联轴器能正常运行的前提条件。详细说明请参见我公司《联轴器使用说明书》，该说明书在产品包装箱中提供。

3. After the coupling is installed, fully grease the coupling through the grease nipples until the grease oozes out through the sealing rings.

4. The gear couplings should be thoroughly cleaned and have the grease replaced after three months in use. Subsequent cleaning and greasing can be extended to every 6 months, but by no means over one year. Grease in the gear couplings should be checked at least once a month and regrease if necessary.

Proper installation and good lubrication are factors of vital importance for optimal operations of gear couplings. For detailed instructions, please refer to our "Gear Coupling Application Manual", which is supplied with the products in the packaging boxes.

WARNING: ROTATING DRIVESHAFTS

- Rotating auxiliary drive shafts are dangerous. You can snag clothes, skin, hair, hands, etc. This can cause serious injury or death.
- Do not go under the equipment when running.
- Do not work on or near an exposed shaft while it is running.
- Shut off equipment and lock out before working on drive shaft or driven equipment
- Exposed rotating drive shafts must be guarded.

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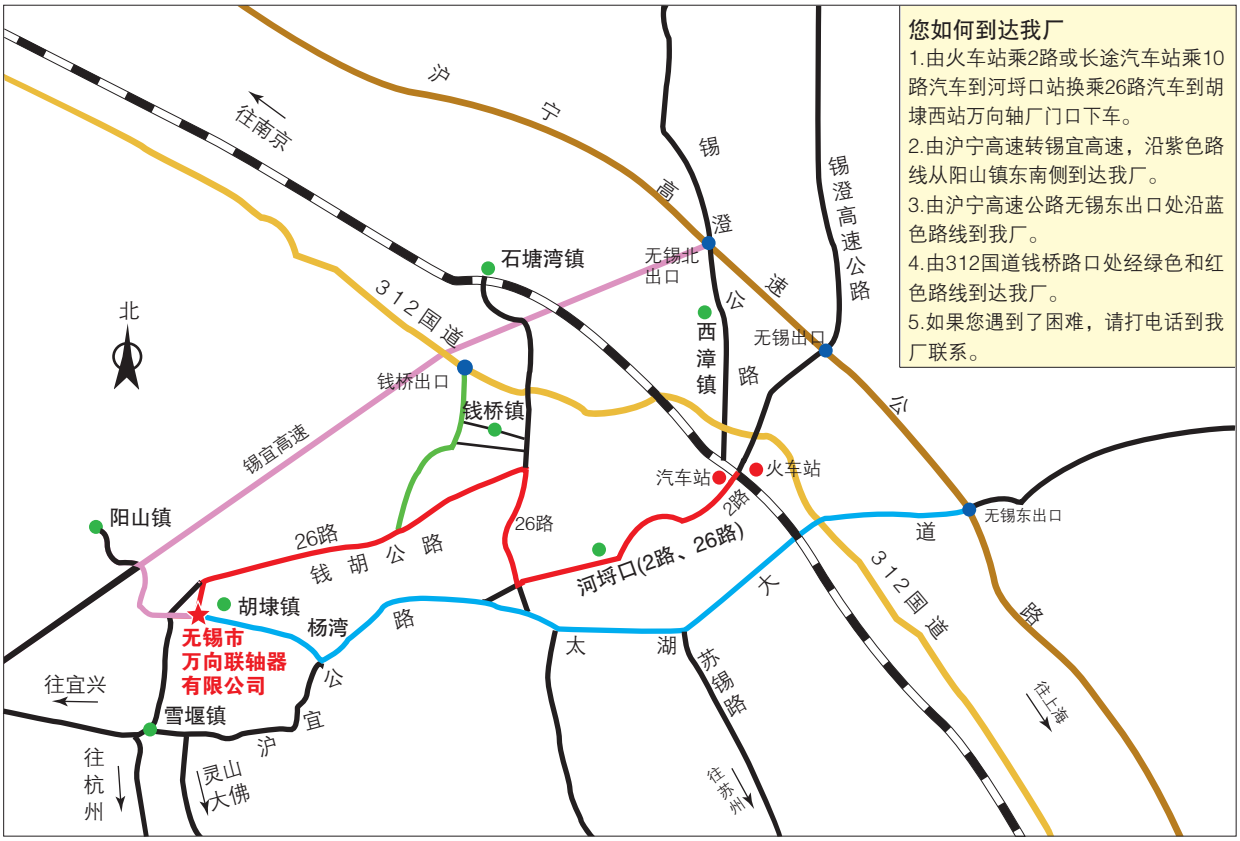

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