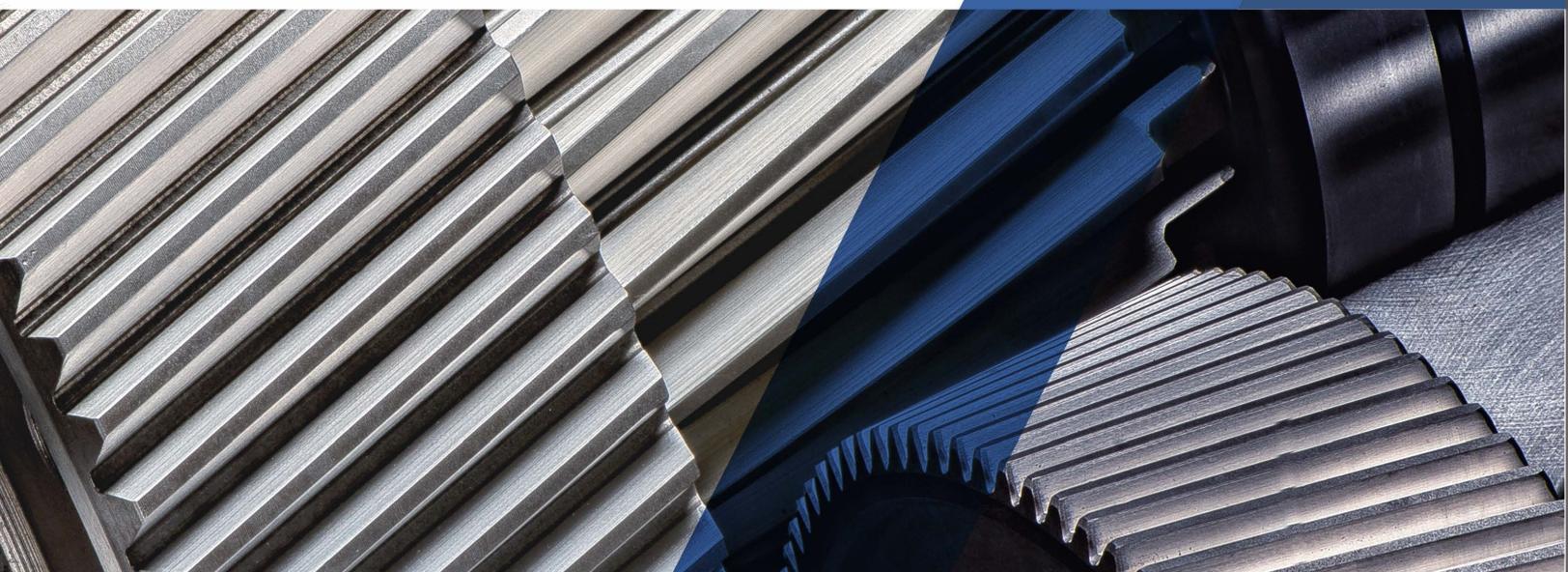


TONGLI
股票代码 301255

减速机选型样本

GEAR UNITS MODEL SELECTION SAMPLE



二〇二四年
(总第十版)

入选《机械设计手册》选型标准
(化工工业出版社/机械工业出版社)

Listed in 《Handbook of mechanical design》
as guideness of gearbox selection

STANDARD
PRODUCTS

标准产品



I TR系列斜齿齿轮硬齿面减速机
TR series Rigid Tooth Flank
Helical Gear Reducer



I TS系列斜齿-蜗轮蜗杆减速机
TS series Helical-worm
Gear Reducer



I TF系列平行轴斜齿齿轮减速机
TF series Parallel Shaft
Helical Gear Reducer



I TK系列螺旋锥齿轮减速机
TK series Helical-bevel
Gear Reducer



I TH系列硬齿面齿轮减速机
TH series Rigid Tooth Flank
Gearbox



I TB系列硬齿面齿轮减速机
TB series Rigid Tooth Flank
Gearbox



I SJ系列涡轮丝杆升降机
SJ series Worm Screw
elevators



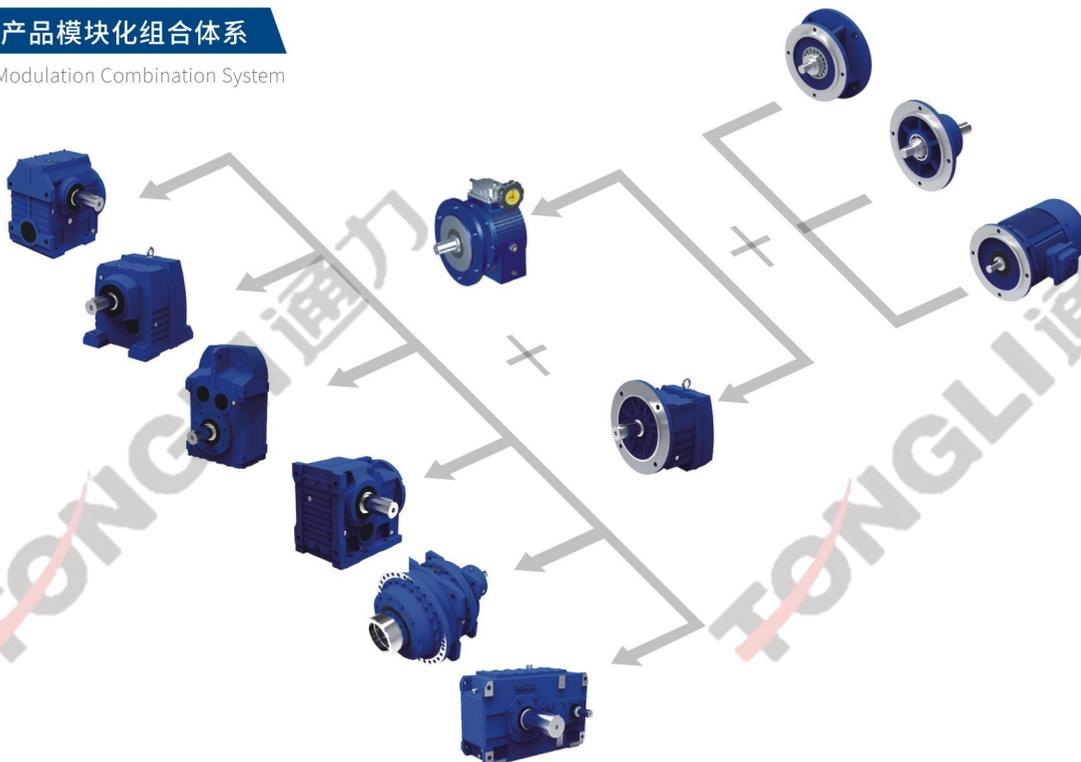
I Z系列螺旋锥齿减速机
Z series Spiral Bevel
Gear Reducer



I TP系列行星齿轮减速机
TP series Planetary
Gear Units

通力产品模块化组合体系

TONGLI Modulation Combination System





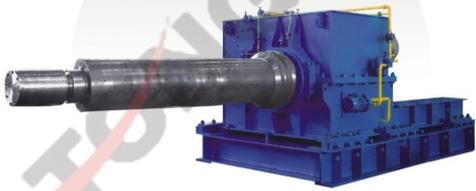
| 粗轧卷取机用减速机
Uncoiler Specialized
Gearbox



| 粗轧机用主减速机
Rolling Mill
Specialized Gearbox



| 刮板输送机用减速机
Scraper Conveyor
Specialized Gearbox



| 开收卷机用减速机
Uncoiler
Specialized Gearbox



| 棕榈油专用减速机
Palm Oil Specialized
Gearbox



| 干燥窑用减速机
Dry Kiln Specialized
Gearbox



| 精轧卷取机用减速机
Precision Uncoiler
Specialized Gearbox



| 颗粒机专用减速机
Granulator Specialized
Gearbox



| 启闭机用减速机
Hoist Specialized
Gearbox

ENTERPRISE
PROFILE

公司简介

浙江通力传动科技股份有限公司创建于2008年，是一家专业从事减速机研发生产、销售及服务的国家高新技术企业、国家级绿色工厂、国家专精特新“小巨人”企业，下辖通用减速机、工业齿轮箱两大生产基地。公司于2022年12月27日在深交所创业板上市（股票简称:通力科技，股票代码:301255），经过十余年的稳健发展和技术积累，公司现已成为中国减速机行业的知名企业之一，在技术、装备、产品性能等方面均处于国内先进水平。近年来，通力作为起草单位参与制定了4项减速机国家标准与行业标准;拥有多项核心技术专利，自主研发多个系列减速机(齿轮箱)产品，其中部分产品被列为国家重点新产品和国家火炬计划项目。

通力主导产品通用减速机、工业齿轮箱广泛应用于冶金、化工、环保、能源、制药、起重、输送、建材、粮油等国民经济的支柱产业领域。先后为中国一重、中国二重、中国中冶、中粮集团、青山控股、齐鲁制药、宁德时代、中央电视台春晚舞台、北京冬奥会、杭州亚运会等国内大型工业企业及国家重点工程项目提供高性能的配套减速机，并出口东南亚、南美、中东等国家和地区，获得国内外众多客户的首肯和赞许。

Zhejiang TONGLI Transmission Technology Co., LTD. established in 2008 and is a National High-tech Enterprise and National Specialized New Little Giant Enterprise which engaged in gearbox R & D, manufacturing, sales and service. At present, TONGLI has two production bases for general reducer and industrial gearbox. On 27th Dec. 2022, TONGLI was floated on GEM of Shenzhen Stock Exchange (Stock for short: TONGLI Tech., Stock code: 301255). After more than 10 years of steady development and technical accumulation, TONGLI has become one of the well-known enterprises in China reducer industry, and in the domestic advanced level in technology, equipment, product performance and other aspects. In recent years, as a drafting unit, TONGLI has participated in the formulation of four national and industry standards for reducer, owns a number of core technology patents and independently developed a number of series of reducer and gearbox. Some products have been listed as national key new products and national torch plan projects. TONGLI's leading products are widely used in Metallurgy, Chemical, Environmental protection, Energy, Pharmaceutical, Hoist, Transportation, Building materials, Grain and oil and other pillar industries of the national economy. At the same time, TONGLI successively provide high performance matching gearbox for CFHI, CNEG, MCC Group, COFCO, Tsingshan Holding, QILU Pharmaceutical, CATL, the CCTV Spring Festival Gala stage, Beijing Winter Olympics and other large domestic industrial enterprises and national key projects. TONGLI gearbox exported to Southeast Asia, South America, the Middle East and other countries and regions, and obtained many approvals and praises from home and abroad customers.



通力产品选型信息：

客户：			浙江通力传动科技股份有限公司		
联系人		电话		销售员	
E-MAIL		传真		电 话	
地址			时 间	年 月 日	
工作机	设备名称：				
额定功率：	kw	工作扭矩：	N.m	转速：	r/min
日工作制：(1) ≤ 0.5h (2) 0.5-10h (3) > 10h					
环境温度：	°C	海拔高度：	m	起动扭矩：	N.m
起动频率：				次/h	
冲击载荷：(1) 强烈冲击 (2) 中等冲击 (3) 轻微冲击 (4) 没有冲击				冲击载荷频率：	
安装空间 (1) 狭小空间 风速 ≤ 0.5m/s (2) 大厅或大车间 风速 ≥ 1.4 m/s (3) 室外 风速 ≥ 4 m/s			使用场合：(1) 普通 (2) 腐蚀 (3) 盐雾 (4) 粉尘		
原动机	原动机名称		原动机型号		
原动机描述 (如功率、转速、制动等)					
电机型号：			类别：(1) 普通电机 (2) 辊道电机 (3) 其他电机		
功能特性 (可多选)：(1) 制动 (2) 防爆 (3) 变频调速 (4) 其他					
参数及性能		电机功率：	KW	电机极数	基准频率：
					Hz
额定电压：	V	额定电流：	A	防护等级：	绝缘等级：
其他： 注：用户自配电机时请提供电动机的联接尺寸图					
减速机要求	要求的产品系列：		安装型式 (根据样本选取)		
输出轴方式：(1) 单向实心轴 (2) 双向实心轴 (3) 平键空心轴 (4) 锁紧盘空心轴 (5) 内花键空心轴 (6) 外花键实心轴					
原动机与减速机的联接方式：(1) 直联 (无联接法兰) (2) 直联 (有联接法兰) (3) 联轴器 (4) 皮带轮 (5) 链轮					
工作机与减速机的联接方式：(1) 直联 (2) 齿轮 (3) 联轴器 (4) 皮带轮 (5) 链轮					
输出轴与输入轴之间的结构形式：(1) 平行轴 (2) 直交轴 (3) 同轴					
电机接线盒位置 (根据样本选取)：(1) I (0°) (2) II (270°) (3) III (180°) (4) IV (90°) (5) V (0°) (6) VI (270°) (7) VII (180°) (8) VIII (90°)					
附件及其他要求：					
输入轴、输出轴法兰及锁紧盘方向：					
输入轴旋转方向①：				输出轴旋转方向①：	
输入轴外部径向力及作用点：					
输出轴外部径向力及作用点：					
输入轴外部轴向力及方向：			输出轴外部轴向力及方向：		
减速机的其他特殊要求：					
预选型号：					

①TB、TP..L、TP..K型减速机必须填写，TK系列只需填输出轴旋向，其他可不填。

②本选型信息表适用于TH、TB、TP、TR、TK、TF、TS系列减速机。

注：请在数字下面打√

轴端螺纹孔，配合公差，平键和键槽

Centre Holes in Shaft Ends, Fit tolerance and Parallel Key and Keyway

轴端螺纹孔		Centre holes in shaft end								
		mm								
轴径 Φd Diameter	$\geq 16\sim 21$	$>21\sim 24$	$>24\sim 30$	$>30\sim 38$	$>38\sim 50$	$>50\sim 85$	$>85\sim 130$	$>130\sim 225$	$>225\sim 320$	$>320\sim 500$
螺孔尺寸 Screw	M6 \times 12	M8 \times 16	M10 \times 20	M12 \times 20	M16 \times 30	M20 \times 35	M24 \times 40	M30 \times 50	M36 \times 60	M42 \times 70

配合公差 Selection of ISO Fits		
轴径 Shaft d/mm	轴径公差 Shaft tolerance	孔公差 Bore tolerance
≤ 25	k6	H7
>25	m6	H7
>100	n6	H7

平键和键槽		Parallel key and keyway				
		mm				
平键紧固采用无锥度联接。 平键和键槽根据 GB/T 1095-1979 标准确定 Drive type fastening without taper action. Parallel key and keyway acc. to GB/T 1095-1979		直径 Diameter d	宽度 Width b	高度 Height h	轴键槽深度 Depth of keyway in shaft t ₁	轮毂键槽深度 Depth of keyway in hub d+t ₂
		$>8-10$	3	3	1.8	d+1.4
$>10-12$	4	4	2.5	d+1.8		
$>12-17$	5	5	3	d+2.3		
$>17-22$	6	6	3.5	d+2.8		
$>22-30$	8	7	4	d+3.3		
$>30-38$	10	8	5	d+3.3		
$>38-44$	12	8	5	d+3.3		
$>44-50$	14	9	5.5	d+3.8		
$>50-58$	16	10	6	d+4.3		
$>58-65$	18	11	7	d+4.4		
$>65-75$	20	12	7.5	d+4.9		
$>75-85$	22	14	9	d+5.4		
$>85-95$	25	14	9	d+5.4		
$>95-110$	28	16	10	d+6.4		
$>110-130$	32	18	11	d+7.4		
$>130-150$	36	20	12	d+8.4		
$>150-170$	40	22	13	d+9.4		
$>170-200$	45	25	15	d+10.4		
$>200-230$	50	28	17	d+11.4		
$>230-260$	56	32	20	d+12.4		
$>260-290$	63	32	20	d+12.4		
$>290-330$	70	36	22	d+14.4		
$>330-380$	80	40	25	d+15.4		
$>380-440$	90	45	28	d+17.4		
$>440-500$	100	50	31	d+19.4		

注：配合公差仅为推荐值

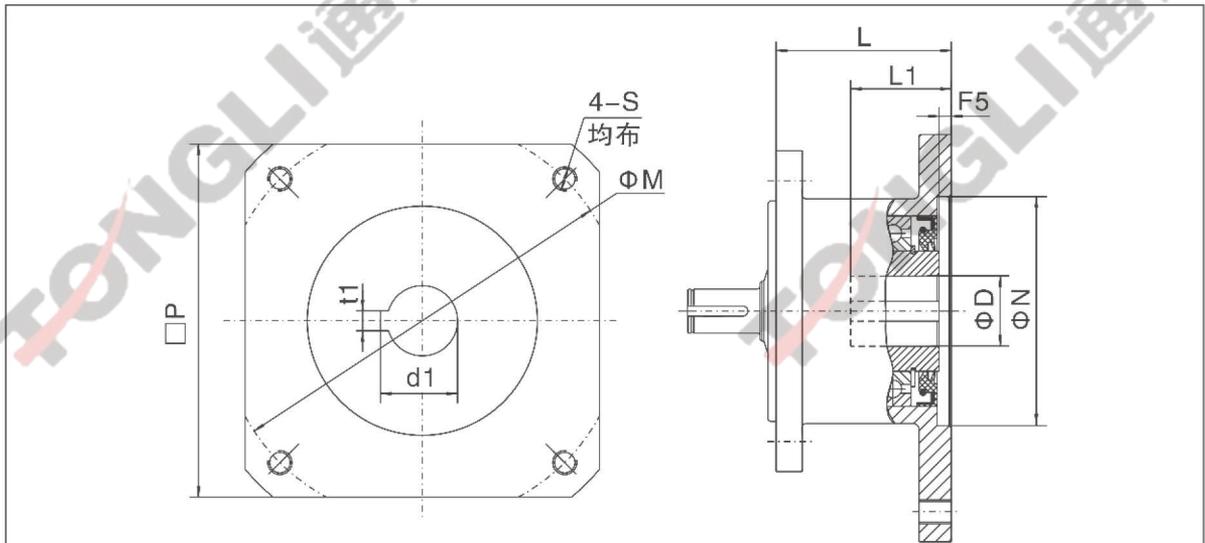
实际传动比
The actual transmission ratio

TS系列实际传动比

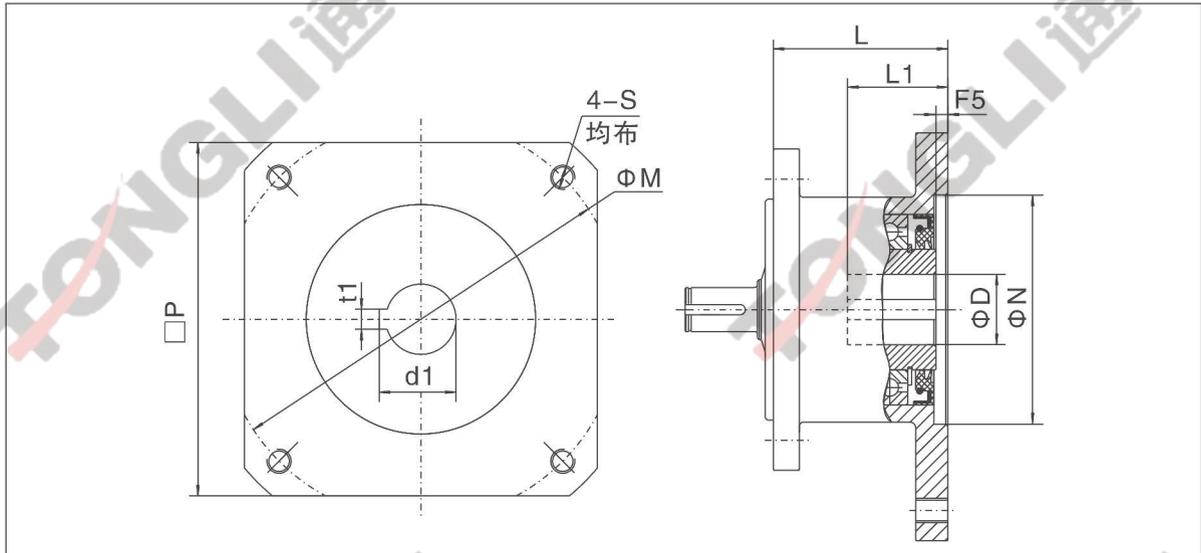
TS38	TS48	TS58	TS68	TS78	TS88	TS98
165.71	244.74	196.21	227.20	241.09	329.81	283.04
152.00	228.75	180.40	205.11	206.04	292.50	254.80
129.41	197.73	154.35	180.46	188.89	289.22	230.48
111.58	168.00	133.79	170.40	165.75	256.50	207.48
104.00	150.00	125.05	144.00	157.08	245.87	187.89
90.91	146.84	108.09	130.00	137.48	215.61	166.62
85.22	137.25	91.84	114.38	123.86	198.00	150.64
75.20	118.64	82.00	108.00	108.65	166.43	127.68
66.67	100.80	70.04	91.96	95.88	152.95	111.52
56.67	90.00	66.89	83.57	92.18	135.83	93.27
52.80	76.88	65.60	72.39	85.00	121.44	83.31
52.00	72.00	62.53	65.00	78.78	109.19	80.75
45.45	68.63	54.05	63.00	72.22	94.77	75.32
42.61	60.65	45.92	57.19	63.38	84.86	63.84
37.60	59.32	41.00	54.00	60.06	75.63	55.76
33.33	50.40	35.02	45.98	52.57	70.40	46.64
28.33	45.00	32.80	41.79	47.36	67.62	40.38
26.40	38.44	30.12	36.20	41.54	60.80	36.39
23.46	36.00	26.11	31.50	36.66	52.77	32.76
20.22	30.33	24.40	26.40	32.50	47.25	29.67
18.85	27.74	21.09	23.83	27.75	42.47	26.31
16.48	25.93	17.92	20.97	25.79	39.20	23.79
15.45	22.41	16.00	19.80	22.75	38.25	20.16
13.63	19.04	13.67	16.86	21.56	34.09	17.61
12.08	17.00	12.80	15.32	18.87	32.15	14.73
10.27	14.52	10.78	13.27	17.00	29.55	12.75
9.57	13.60		11.55	14.91	26.24	
	11.46			13.16	23.46	
				11.67	21.09	
				9.96	18.31	
					16.39	
					13.60	
					11.83	

TS...TR...系列实际传动比

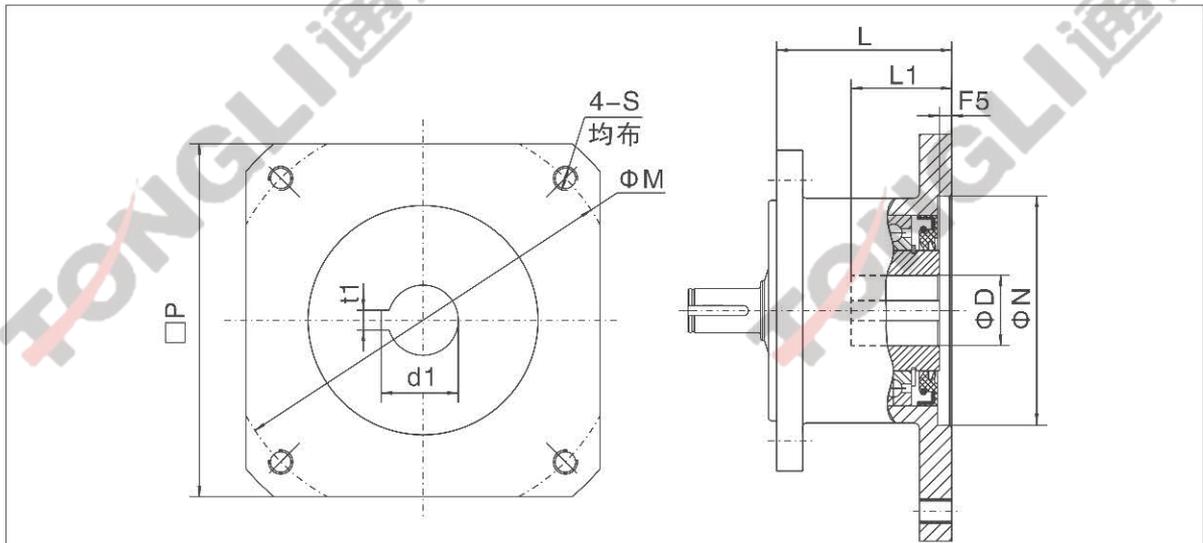
TS38TR18	TS48TR18	TS58TR18	TS68TR38	TS78TR38	TS88TR58	TS98TR58
174	391	577	1043	3107	5874	8606
163	342	504	912	2075	5236	7513
144	295	431	807	1794	4571	6710
128	256	390	716	1730	3874	5767
109	229	332	616	1609	3483	4964
	203	288	541	1412	2928	4433
	183	268	467	1224	2556	4018
	162	231	423	1098	2369	3479
		202	367	957	2078	3107
		189	319	840	1852	2642
		167	281	711	1657	2331
		134	247	641	1322	2082
			222	576	1179	1827
			199	505	1022	1566
			169	430	919	1399
				388	852	1231
				327	713	1072
				290	607	943
				246	552	824
				216	479	702
					433	627
					373	534
					327	485
					275	420
					257	372
					222	322
					207	281
						245
						205



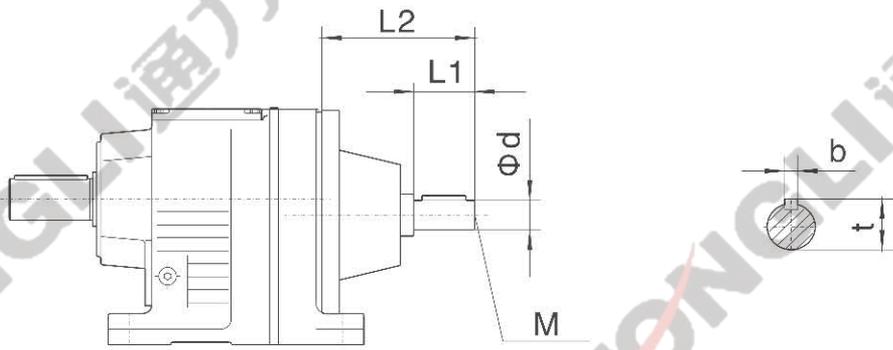
机型	代号	□P	M	N	F5	L	S	D	t1	d1	L1	
TR18,28,38 TF38,48 TK38 TS38,48,58	SF71	-1	60	70	50	5	56	M5	14	5	16.3	35
	SF80	-1	80	90	70	4	64	M6	19	6	21.8	45
		-2	90	100	80	5	64	M6	19	6	21.8	45
		-3	96	100	80	4	64	M6	19	6	21.8	45
		-4	110	130	95	4	64	M8	19	6	21.8	45
		-5	130	145	110	8	66	M8	22	8	25.3	55
	SF90	-1	100	115	95	8	66	M6	24	8	27.3	55
		-2	126	130	110	5	66	M8	24	8	27.3	55
	SF100	-1	130	145	110	7	68	M8	28	8	31.3	65
	TR48,58,68 TF58,68 TK48,58,68 TS68 TRX58,68	SF71	-1	60	70	50	5	58	M5	14	5	16.3
SF80		-1	80	90	70	5	75	M6	19	6	21.8	45
		-2	96.5	100	80	5	75	M6	19	6	21.8	45
		-3	110	130	95	6	75	M8	19	6	21.8	45
SF90		-1	100	115	95	7	76	M8	22	8	25.3	55
		-2	130	145	110	6	76	M8	22	8	25.3	55
		-3	126	130	110	5	76	M8	24	8	27.3	55
		-4	142	165	130	4	76	M10	24	8	27.3	55
		-5	100	115	95	8	77	M6	24	8	27.3	55
SF100		-1	145	165	130	4	77	M10	24	8	27.3	55
		-2	140	165	130	4	77	M10	28	8	31.3	65
		-3	130	145	110	7	77	M8	28	8	31.3	65
SF132		-1	155	165	130	4	88	M10	32	10	35.3	80
		-2	180	200	114.3	6	88	M12	35	10	38.3	80
		-3	192	215	180	5	88	M12	38	10	41.3	80



机型	代号	□P	M	N	F5	L	S	D	t1	d1	L1	
TR78 TF78 TK78 TS78 TRX78	SF71	-1	60	70	50	5	33	M5	14	5	16.3	35
	SF80	-1	110	130	95	4	66	M8	19	6	21.8	45
		-2	80	90	70	5	67	M6	19	6	21.8	45
	SF90	-1	100	115	95	7	70	M8	22	8	25.3	55
		-2	130	145	110	10	73	M8	22	8	25.3	55
		-3	126	130	110	5	68	M8	24	8	27.3	55
		-4	143	165	130	5	68	M10	24	8	27.3	55
	SF100	-5	100	115	95	8	71	M6	24	8	27.3	55
		-1	150	165	130	5	68	M10	28	8	31.3	65
	SF132	-2	130	145	110	8	73	M8	28	8	31.3	65
		-1	155	165	130	6	73	M10	32	10	35.3	80
		-2	180	200	114.3	6	76	M12	35	10	38.3	80
		-3	192	215	180	5	73	M12	38	10	41.3	80
	SF160	-4	224	215	180	5	73	M12	38	10	41.3	80
	SF160	-1	180	200	114.3	5	104	M12	42	12	45.3	115
	TR88 TF88 TK88 TS88 TRX88	SF80	-1	100	115	95	4	73	M8	19	6	21.8
-2			80	90	70	5	74	M6	19	6	21.8	45
SF90		-1	130	145	110	6	73	M8	22	8	25.3	55
		-2	100	115	95	9	78	M6	24	8	27.3	55
SF100		-1	150	165	130	5	74	M10	28	8	31.3	65
		-2	130	145	110	7	76	M8	28	8	31.3	70
SF132		-1	155	165	130	5	88	M10	32	10	35.3	80
		-2	180	200	114.3	6	88	M12	35	10	38.3	80
		-3	192	215	180	5	88	M12	38	10	41.3	80
SF160		-1	180	200	114.3	5	99	M12	42	12	45.3	115

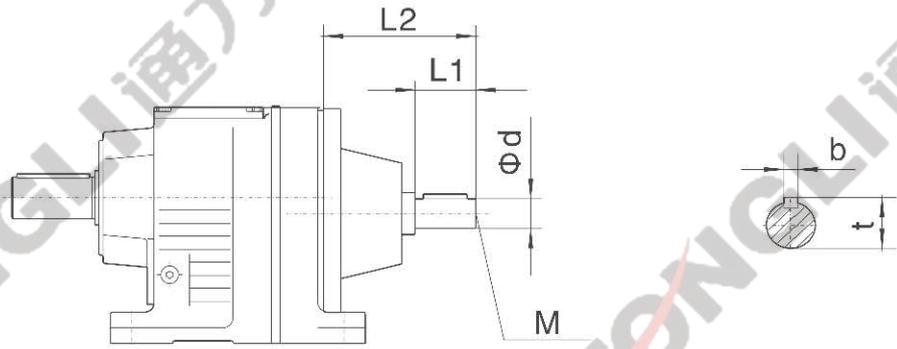


机型	代号	□P	M	N	F5	L	S	D	t1	d1	L1	
TR98 TF98 TK98 TS98 TRX98	SF90	-1	130	145	110	7	68	M8	22	8	25.3	55
		-2	100	115	95	9	58	M6	24	8	27.3	55
	SF100	-1	130	145	110	7	56	M8	28	8	31.3	70
		-2	155	165	130	5	83	M10	28	8	31.3	65
	SF132	-2	192	215	180	5	83	M12	32	10	35.3	80
		-3	180	200	114.3	7	83	M12	35	10	38.3	80
		-4	185	215	180	5	83	M12	38	10	41.3	80
SF160	-1	180	200	114.3	5	119	M12	42	12	45.3	115	
TR108 TF108 TK108 TRX108	SF100	-1	130	145	110	7	59	M8	28	8	31.3	70
	SF132	-1	190	215	180	5	83	M12	38	10	41.3	80
		-2	180	200	114.3	7	81	M12	35	10	38.3	80
	SF160	-1	180	200	114.3	5	114	M12	42	12	45.3	115
	SF180	-1	260	300	250	5	113	M16	48	14	51.8	110
TR138	SF132	-1	196	215	180	7	78	M12	38	10	41.3	80
		-2	180	200	114.3	7	79	M12	35	10	38.3	80
	SF160	-1	180	200	114.3	5	93	M12	42	12	45.3	115
TK128 TRX128 TF128 TR148	SF132	-1	180	200	114.3	7	61	M12	35	10	38.3	80
	SF160	-1	180	200	114.3	5	97	M12	42	12	45.3	115
TK158 TK168 TK188 TRX158 TF158 TR168	SF160	-1	180	200	114.3	5	90	M12	42	12	45.3	115



TR、TRX、TS、TF、TK系列输入带轴通用

规格	输入轴型号	适用功率范围	d	L1	L2	b	t	M
TRX38、TR18、TR28 、TR38、TS38、TS48 、TS58、TK38、TF38 、TF48	AD1	0.12-0.75kW	16k6	40	115	5	18	M5
	AD2	0.12-3kW	19k6	40	115	6	21.5	M6
TRX58、TRX68、TR48 、TR58、TR68、TS68 、TK48、TK58、TK68 、TF58、TF68	AD2	0.18-3kW	19k6	40	120	6	21.5	M6
	AD2A	0.25-4kW	24k6	50	130	8	27	M8
	AD3	0.55-7.5kW	28k6	60	140	8	31	M10
TRX78、TR78、TS78 、TK78、TF78	AD2	0.18-3kW	19k6	40	130	6	21.5	M6
	AD2A	0.25-4kW	24k6	50	140	8	27	M8
	AD3	0.55-7.5kW	28k6	60	150	8	31	M10
	AD4	1.1-11kW	38k6	80	170	10	41	M12
TRX88、TR88、TS88 、TK88、TF88	AD2	0.55-3kW	19k6	40	160	6	21.5	M6
	AD3	0.55-7.5kW	28k6	60	180	8	31	M10
	AD4	1.1-15kW	38k6	80	200	10	41	M12
	AD5	2.2-22kW	42k6	110	230	12	45	M16
TRX98、TR98、TS98 、TK98、TF98	AD3	0.55-7.5kW	28k6	60	200	8	31	M10
	AD4	1.1-15kW	38k6	80	220	10	41	M12
	AD5	2.2-22kW	42k6	110	250	12	45	M16
	AD6	5.5-30kW	48k6	110	250	14	51.5	M16



TR、TRX、TS、TF、TK系列输入带轴通用

规格	输入轴型号	适用功率范围	d	L1	L2	b	t	M
TRX108、TR108、 TR128、TK108、 TF108	AD3	2.2-7.5kW	28k6	60	220	8	31	M10
	AD4	2.2-15kW	38k6	80	240	10	41	M12
	AD5	2.2-22kW	42k6	110	270	12	45	M16
	AD6	5.5-45kW	48k6	110	270	14	51.5	M16
TR138	AD4	5.5-15kW	38k6	80	277	10	41	M12
	AD5	5.5-22kW	42k6	110	307	12	45	M16
	AD6	5.5-30kW	48k6	110	307	14	51.5	M16
	AD7	5.5-45kW	55k6	110	307	16	59	M20
	AD8	30-55kW	70k6	140	337	20	74.5	M20
TRX128、TR148、 TK128、TF128	AD4	7.5-15kW	38k6	80	267	10	41	M12
	AD5	7.5-22kW	42k6	110	297	12	45	M16
	AD6	7.5-30kW	48k6	110	297	14	51.5	M16
	AD7	11-45kW	55k6	110	297	16	59	M20
	AD8	30-90kW	70k6	140	327	20	74.5	M20
TRX158、TR168、 TR178、TR188、 TK158、TK168、 TK188、TF158、 TF168、TF178	AD5	11-22kW	42k6	110	344 ¹⁾	12	45	M16
	AD6	11-30kW	48k6	110	344 ¹⁾	14	51.5	M16
	AD7	11-45kW	55k6	110	344 ¹⁾	16	59	M20
	AD8	30-200kW	70k6	140	374 ²⁾	20	74.5	M20

注:1) 表示TR188、TF178时该尺寸为337

2) 表示TR188、TF178时该尺寸为367

性能特点 Performance characteristics

- TR系列斜齿轮硬齿面减速机、TK系列螺旋锥齿轮减速机、TF系列平行轴斜齿轮减速机、TS系列斜齿-蜗轮蜗杆减速机、Z系列螺旋锥齿轮减速机，具有体积小，传递扭矩大的特点。
- 在模块组合体系基础上设计制造，有极多的电机组合、安装型式和结构方案，传动比分级细密，满足不同的使用工况，实现机电一体化。
- TR、TK、TF、TS四大系列减速机采用单元结构模块化设计原理，大量减少了零部件种类和库存量，也大大的缩短了交货周期。
- 传动效率高，耗能低，性能优越。
- 带筋的高刚性铸铁箱体；硬齿面齿轮采用优质合金钢，表面经渗碳淬火硬化处理，磨齿精细加工，传动平稳、噪声低、承载能力大，温升低、寿命长。
- TR series rigid tooth flank helical gear units, TK series helical-bevel gear units, TF series parallel shaft helical gear units, TS series helical-worm gear units, Z series spiral bevel gear units, have such outstanding characters as small size and large transmission torque.
- Designed and manufactured on the basis of modular portfolio system, the gear units have abundant combinations with motors, numbers of mounting positions and structure schemes, and a finer grade of transmission ratio, which meet the requirements of various working conditions and realize mechatronics.
- TR, TK, TF, TS four main series gear units adopt the modular cell structure design, which greatly reduced the classification and inventory of parts, and thus the delivery cycle is significantly shortened.
- High efficiency transmission, low energy consumption and superior performance.
- High rigid cast iron housing with ribs. The rigid tooth flank gear adopts high-quality alloy steel, and is hardened with carburizing and quenching treatment and refined by grinding. Smooth drive, low noise, large load capacity and long service life.

选型方法

Type selection method

- 减速机是按载荷平稳，每天工作时间一定和少量起停次数的情况设计的，而在实际使用中往往不是处于此种理想状况，因此必须按照实际情况的载荷类型、运行时间、起动频率来确定工作机系数 f_1 、减速器安全系数 f_2 、起动系数 f_3 。使其小于或等于选型表中的服务系数 f_B ，即
- Gear units are designed under the circumstance of steady load, stated operating time per day and a few starting times. but the practical condition will be not as perfect as the designed circumstance. so we must confirm driven machine factor f_1 , gear units safety factor f_2 , starting factor f_3 according to actual load type, operating time, starting frequency. let it less than or equal to the service factor f_B of selection table, viz

$$f_1 \times f_2 \times f_3 \leq f_B$$

$$f_1 \times f_2 \times f_3 \leq f_B$$

式中

In the formula

f_1 — 工作机系数 (见表1)

f_1 — driven machine factor (see table 1)

f_2 — 减速器安全系数 (见表2)

f_2 — gear units safety factor (see table 2)

f_3 — 起动系数 (见表3)

f_3 — starting factor (see table 3)

- TK系列和Z系列螺旋锥齿轮减速机如果只承受单向载荷则最好注明旋转方向（从输出端方向看），这样有利于改善螺旋锥齿轮的受力状况。
- 输入、输出轴配带轮、链轮、齿轮或会产生其他附加载荷等情况，请与我公司联系
- 我公司可承接特殊规格产品的订货，并可为客户提供专用设计服务。
- 本样本中如有改进之处，不另作通知，请谅解。
- 四大系列减速机98机座以下在出厂前已加润滑油，108机座以上出厂前不加润滑油。
- If the TK series and Z series spiral bevel gear units can only bear single direction load, please indicate the rotating direction (see from output side), which is good for improving the pressing state of the spiral bevel gear.
- Input, output shaft equipped with wheel, sprocket, gear or can generate additional load and so on, please contact our company.
- We accept the orders of products of special specification, and provide our customer with exclusive design service.
- Design and specifications are subject to change without notice, Please forgive
- The four series gearbox under 98's have added lubricating oil before leave the factory, but 108's and above didn't add lubricating oil.

选型指南
 Guidelines for the selection

减速器服务系数

工作机	日工作小时数			工作机	日工作小时数					
	≤0.5h	0.5-10h	>10h		≤0.5h	0.5-10h	>10h			
污水处理	浓缩器(中心传动)	-	-	1.2	金属加工设备	可逆式板坯轧机	-	2.5	2.5	
	压滤器	1.0	1.3	1.5		可逆式线材轧机	-	1.8	1.8	
	絮凝器	0.8	1.0	1.3		可逆式薄板轧机	-	2.0	2.0	
	曝气机	-	1.8	2.0		可逆式中厚板轧机	-	1.8	1.8	
	操集设备	1.0	1.2	1.3		辊缝调节驱动装置	0.9	1.0	-	
	纵向、回转组合操集装置	1.0	1.3	1.5		输送机械	斗式输送机	-	1.2	1.5
	预浓缩器	-	1.1	1.3	绞车		1.4	1.6	1.6	
	螺杆泵	-	1.3	1.5	卷扬机		-	1.5	1.8	
	水轮机	-	-	2.0	皮带输送机<150kw		1.0	1.2	1.3	
	离心泵	1.0	1.2	1.3	皮带输送机≥150kw		1.1	1.3	1.5	
	1个活塞容积式泵	1.3	1.4	1.8	货用电梯*		-	1.2	1.5	
	>1个活塞容积式泵	1.2	1.4	1.5	客用电梯*		-	1.5	1.8	
挖泥机	斗式输送机	-	1.6	1.6	刮板式输送机		-	1.2	1.5	
	倾卸装置	-	1.3	1.5	自动扶梯		-	1.2	1.4	
	Carteypillar行走机构	1.2	1.6	1.8	轨道行走机构		-	1.5	-	
	斗轮式挖泥机(用于拾拾)	-	1.7	1.7	变频装置	-	1.8	2.0		
	斗轮式挖泥机(用于粗料)	-	2.2	2.2	往复式压缩机	-	1.8	1.9		
	切碎机	-	2.2	2.2	起重机械	回转机构*	1.0	1.4	1.8	
行走机构*	-	1.4	1.8	俯仰机构		1.0	1.25	1.5		
弯板机*	-	1.0	1.0	行走机构		1.5	1.75	2.0		
挤压机	-	-	1.6	提升机构*		1.0	1.25	1.5		
调浆机	-	1.8	1.8	转臂式起重机*		1.0	1.25	1.6		
化学工业	橡胶碾光机	-	1.5	1.5	冷却塔	冷却塔风扇	-	-	2.0	
	冷却圆筒	-	1.3	1.4		风机(轴流和离心式)	-	1.4	1.5	
	混料机,用于均匀介质	1.0	1.3	1.4	蔗糖生产	甘蔗切碎机*	-	-	1.7	
	混料机,用于非均匀介质	1.4	1.6	1.7		甘蔗碾磨机	-	-	1.7	
	搅拌机,用于密度均匀介质	1.0	1.3	1.5		甜菜切碎机	-	-	1.2	
	搅拌机,用于非均匀介质	1.2	1.4	1.6	甜菜糖生产	榨取机,机械致冷机,蒸煮机	-	-	1.4	
	搅拌机,用于不均匀气体吸收	1.4	1.6	1.8		甜菜清洗机	-	-	1.5	
	烘干机	1.0	1.3	1.5		甜菜切碎机	-	-	1.5	
	金属加工设备	离心机	1.0	1.2	1.3	造纸机械	各种类型**	-	1.8	2.0
		覆板机	1.0	1.0	1.2		碎浆机驱动装置	2.0	2.0	2.0
推钢机		1.0	1.2	1.2	离心式压缩机	-	1.4	1.5		
编线机		-	1.6	1.6	索道缆车	运货索道	-	1.3	1.4	
冷床横移架		-	1.5	1.5		往返系统空中索道	-	1.6	1.8	
辊式矫直机		-	1.6	1.6		T型杆升降机	-	1.3	1.4	
辊道(连续式)		-	1.5	1.5		连续索道	-	1.4	1.6	
辊道(间歇式)		-	2.0	2.0	水泥工业	混凝土搅拌机	-	1.5	1.5	
可逆式轧管机		-	1.8	1.8		破碎机*	-	1.2	1.4	
剪切机(连续式)*		-	1.5	1.5		回转窑	-	-	2.0	
剪切机(曲柄式)*		1.0	1.0	1.0		管式磨机	-	-	2.0	
连铸机驱动装置		-	1.4	1.4		选粉机	-	1.6	1.6	
可逆式开坯机		-	2.5	2.5		辊压机	-	-	2.0	

工作机额定功率 P_2 的确定 *)按最大扭矩确定额定功率. **)检验热功率是绝对必要的.

重要性与安全要求	一般设备, 减速器失效仅引起单机停产且易更换备件	重要设备, 减速器失效引起机组、生产线或全厂停产.	高度安全要求, 减速器失效引起起设备、人身事故
f_2	1~1.2	1.2~1.4	1.4~1.6

f_3	f_1	f_3			
		1	1.25-1.75	2-2.75	≥3
≤5		1	1	1	1
6-25		1.2	1.12	1.06	1
26-60		1.3	1.2	1.12	1.06
61-180		1.5	1.3	1.2	1.12
>180		1.7	1.5	1.3	1.2

Gear Units Service Factor

Driven machines	Effective daily operating period under load in hours			Driven machines	Effective daily operating period under load in hours				
	$\leq 0.5h$	0.5-10h	$>10h$		$\leq 0.5h$	0.5-10h	$>10h$		
Waste water treatment	Thickeners(central drive)	-	-	1.2	Metal working mills	Reversing slabbing mills	-	2.5	2.5
	Filter presses	1.0	1.3	1.5		Reversing wire mills	-	1.8	1.8
	Flocculation apparata	0.8	1.0	1.3		Reversing sheet mills	-	2.0	2.0
	Aerators	-	1.8	2.0		Reversing plate mills	-	1.8	1.8
	Raking equipment	1.0	1.2	1.3		Roll adjustment drives	0.9	1.0	-
	Combined longitudinal and rotary rakes	1.0	1.3	1.5	Conveyors	Bucket conveyors	-	1.2	1.5
	Pre-thickeners	-	1.1	1.3		Hauling winches	1.4	1.8	1.8
	Screw pumps	-	1.3	1.5		Hoists	-	1.5	1.8
	Water turbines	-	-	2.0		Belt conveyors <150 kw	1.0	1.2	1.3
	Centrifugal pumps	1.0	1.2	1.3		Belt conveyors ≥ 150 kw	1.1	1.3	1.5
	1 piston positive-displacement pumps	1.3	1.4	1.8		Goods lifts *	-	1.2	1.5
>1 piston positive-displacement pumps	1.2	1.4	1.5	Passenger lifts *		-	1.5	1.8	
Dredgers	Bucket conveyors	-	1.6	1.6		Apron conveyors	-	1.2	1.5
	Dumping devices	-	1.3	1.5		Escalators	-	1.2	1.4
	Caterpillar travelling gears	1.2	1.6	1.8		Rail travelling gears	-	1.5	-
	Bucket wheel excavators as pick-up	-	1.7	1.7	Frequency converters	-	1.8	2.0	
	Bucket wheel excavators for primitive material	-	2.2	2.2		Reciprocating compressors	-	1.8	1.9
	Cutter heads	-	2.2	2.2	Cranes	Slewing gears *	1.0	1.4	1.8
	Traversing gears *	-	1.4	1.8		Luffing gears	1.0	1.25	1.5
Plate bending machines	-	1.0	1.0	Travelling gears		1.5	1.75	2.0	
Chemical industry	Extruders	-	-	1.6		Holisting gears *	1.0	1.25	1.5
	Dough mills	-	1.8	1.8		Derricking jib cranes *	1.0	1.25	1.8
	Rubber calenders	-	1.5	1.5	Cooling towers	Cooling tower fans	-	-	2.0
	Cooling drums	-	1.3	1.4		Blowers(axial and radial)	-	1.4	1.5
	Mixers for uniform media	1.0	1.3	1.4	Cane sugar production	Cane knives *	-	-	1.7
	Mixers for non-uniform media	1.4	1.6	1.7		Cane mills	-	-	1.7
	Agitators for media with uniform density	1.0	1.3	1.5	Beet sugar production	Beet cassettes macerators	-	-	1.2
	Agitators for media with non-uniform density	1.2	1.4	1.6		Extraction plants, Mechanical refrigerators, Juice boilers,	-	-	1.4
	Agitators for media with non-uniform gas absorption	1.4	1.6	1.8		Sugar beet washing machines	-	-	1.5
	Toasters	1.0	1.3	1.5	Paper machines	Sugar beet cutters	-	-	1.5
	Centrifuges	1.0	1.2	1.3		Of all-kind **	-	1.8	2.0
Metal working mills	Plate tilters	1.0	1.0	1.2	Pulper drives	2.0	2.0	2.0	
	Ingot pushers	1.0	1.2	1.2	Cableways	Centrifugal compressors	-	1.4	1.5
	Winding machines	-	1.6	1.6		Material ropeways	-	1.3	1.4
	Cooling bed transfer frames	-	1.5	1.5	To-and fro system aerial ropeways	-	1.6	1.8	
	Roller straighteners	-	1.6	1.6	T-bar lifts	-	1.3	1.4	
	Roller tables continuous	-	1.5	1.5	Continuous ropeways	-	1.4	1.6	
	Roller tables intermittent	-	2.0	2.0	Cement industry	Concrete mixers	-	1.5	1.5
	Roller tables Reversing tube mills	-	1.8	1.8		Breakers *	-	1.2	1.4
	Shears continuous *	-	1.5	1.5		Rotary kilns	-	-	2.0
	Shears crank type *	1.0	1.0	1.0		Tube mills	-	-	2.0
	Continuous casting drivers	-	1.4	1.4		Separators	-	1.6	1.6
Reversing blooming mills	-	2.5	2.5	Roll crushers	-	-	2.0		

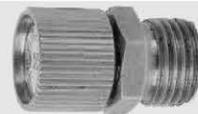
Design for power rating of driven machine P_2 *)Designed power corresponding to max.torque.

***)A check for thermal capacity is absolutely essential.

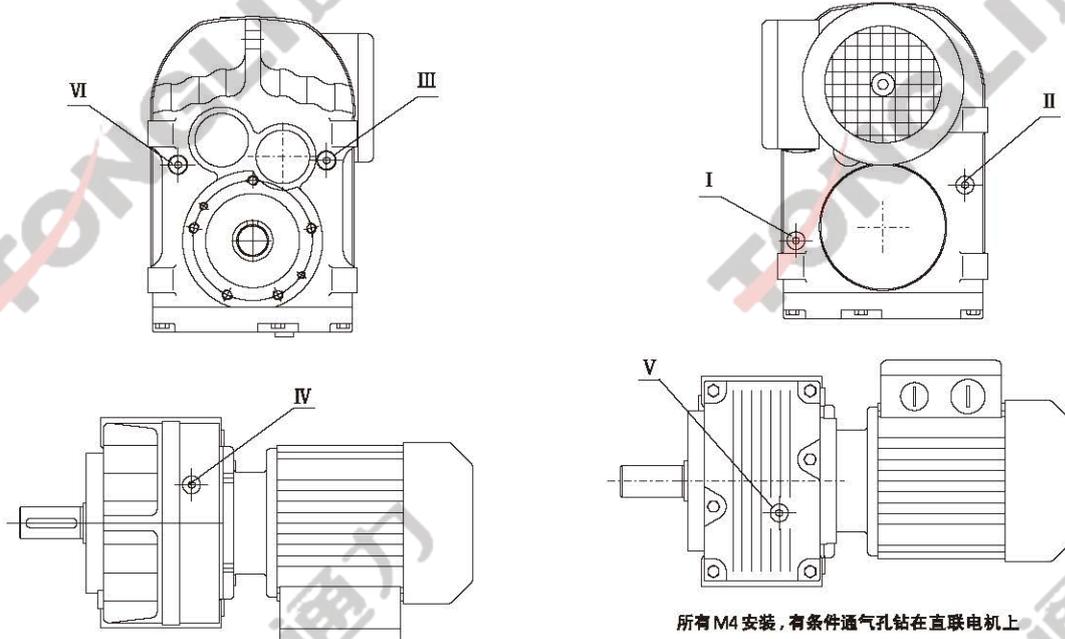
Importance and safety request	Ordinary equipment, malfunction only cause accident of single-machine and easily replaced.	Important equipment, malfunction cause the accident of assembling unit, production-line or whole factory.	Safety request highly, malfunction cause the accident of equipment and personal injury.
f_2	1~1.2	1.2~1.4	1.4~1.6

f_3	f_1	Starts per hour			
		1	1.25-1.75	2-2.75	≥ 3
≤ 5		1	1	1	1
6-25		1.2	1.12	1.06	1
26-60		1.3	1.2	1.12	1.06
61-180		1.5	1.3	1.2	1.12
>180		1.7	1.5	1.3	1.2

四大系列通气孔、油镜孔（溢油孔）放油孔位置图
Location of four series's Blowhole、oil immersion lens、drain hole



TF..38~TF..178

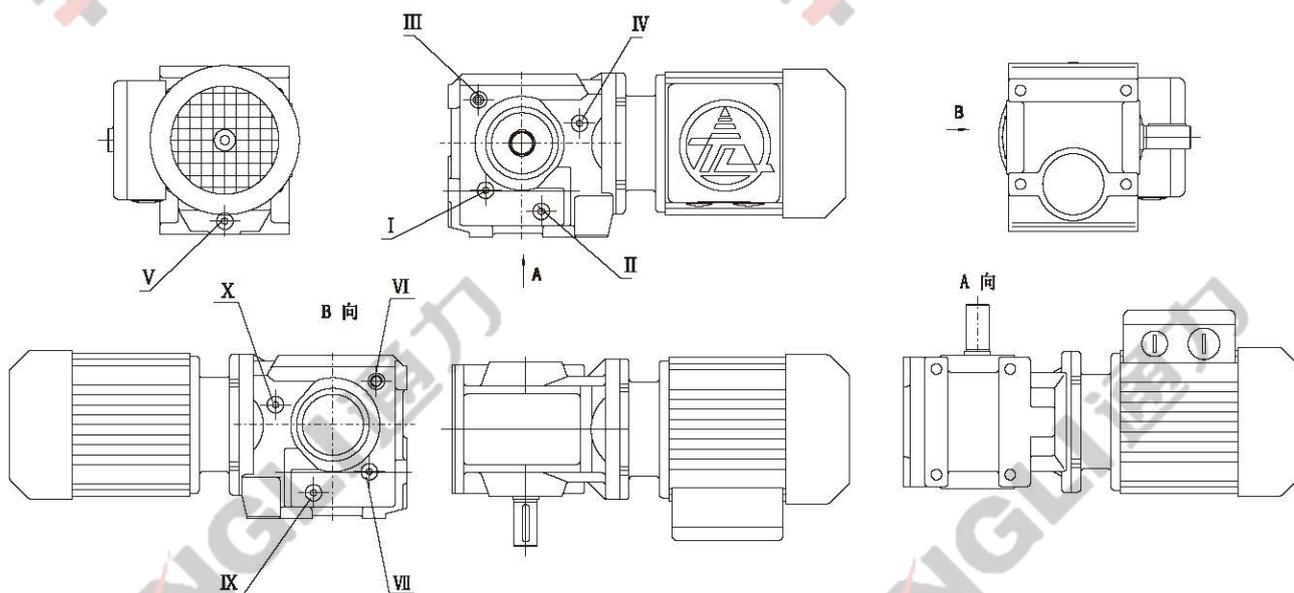


注:M2安装时盖板方向取高油位,
TF68以下 M5、M6安装时盖板方向取低油位
TF78以上 M5、M6安装时盖板方向取高油位
M1、M3、M4安装时盖板方向按图

所有M4安装,有条件通气孔钻在直联电机上

安装方式 孔位顺序	M1	M2	M3	M4	M5	M6
通气孔	IV	■	V	I	VI	■
油镜孔	■	V	■	IV	V	V
放油孔	V	I	IV	■	I	■

TS38



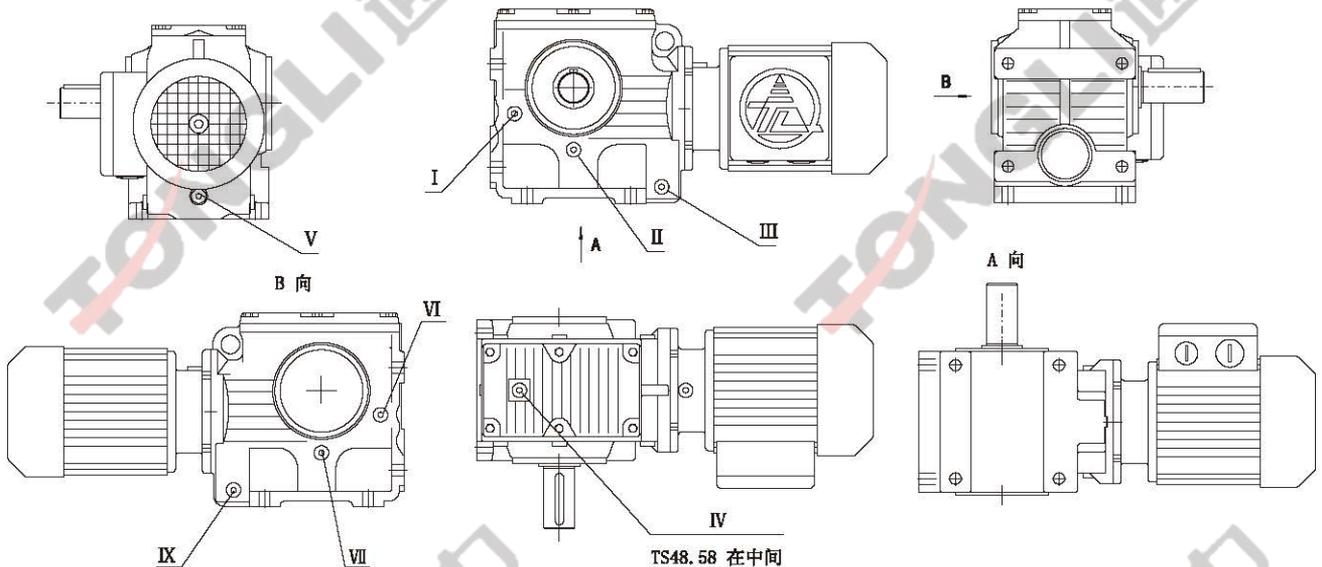
注:油镜安装在两侧且为实心单输出时,装在输出轴反方向,如为双轴或是空心轴则安装在A面

所有M4安装,有条件通气孔钻在直联电机上

安装方式 孔位顺序	M1	M2	M3	M4	M5	M6
通气孔	■	■	V	V	VI	■
油镜孔	I/VI	II/IX	I/VI	IV/X	V	V
放油孔	V	V	■	■	■	VI

四大系列通气孔、油镜孔（溢油孔）放油孔位置图
 Location of four series's Blowhole、oil immersion lens、drain hole

TS48~TS98

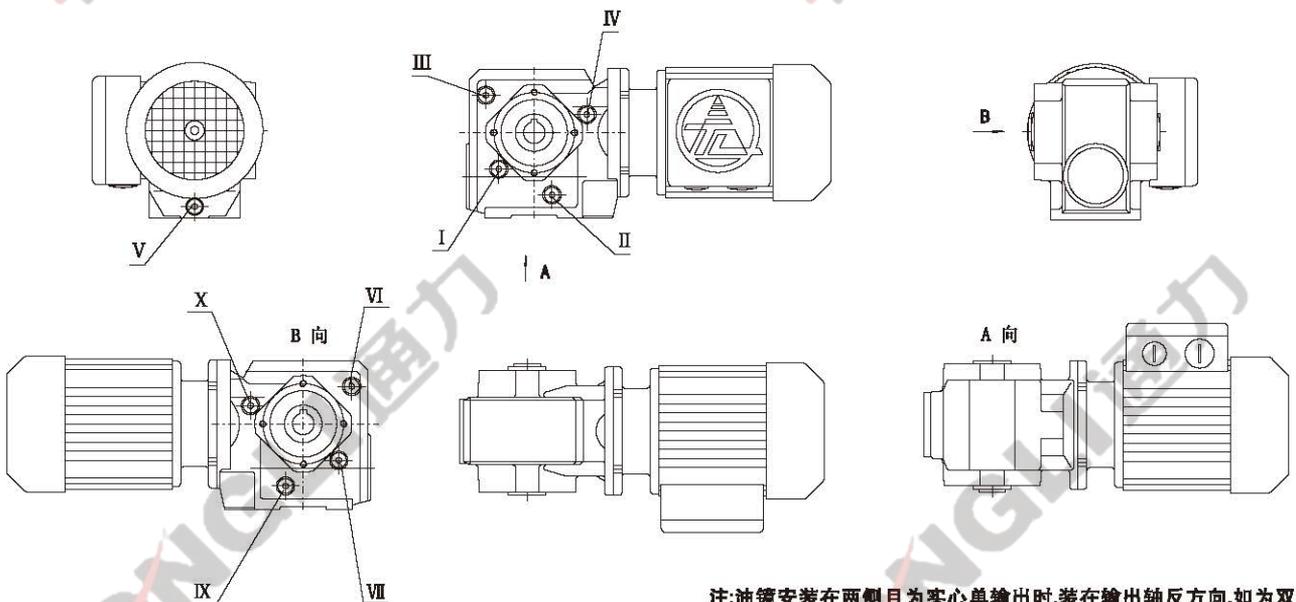


注意：M2、M5、M6安装、盖板方向取IV孔的高油位
 油镜安装在两侧且为实心单输出时，装在输出轴反方向，如为双出轴或是空心轴则安装在A面

安装方式 孔位顺序	M1	M2	M3	M4	M5	M6
通气孔	IV	I	III	V	VI	II
油镜孔	I/VI	IV	II/VI	III/IX	IV	IV
放油孔	III	V	IV	I	III	IX

所有M4安装，有条件通气孔钻在直联电机上

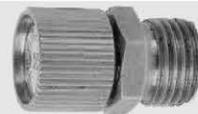
TSA38 TSF38



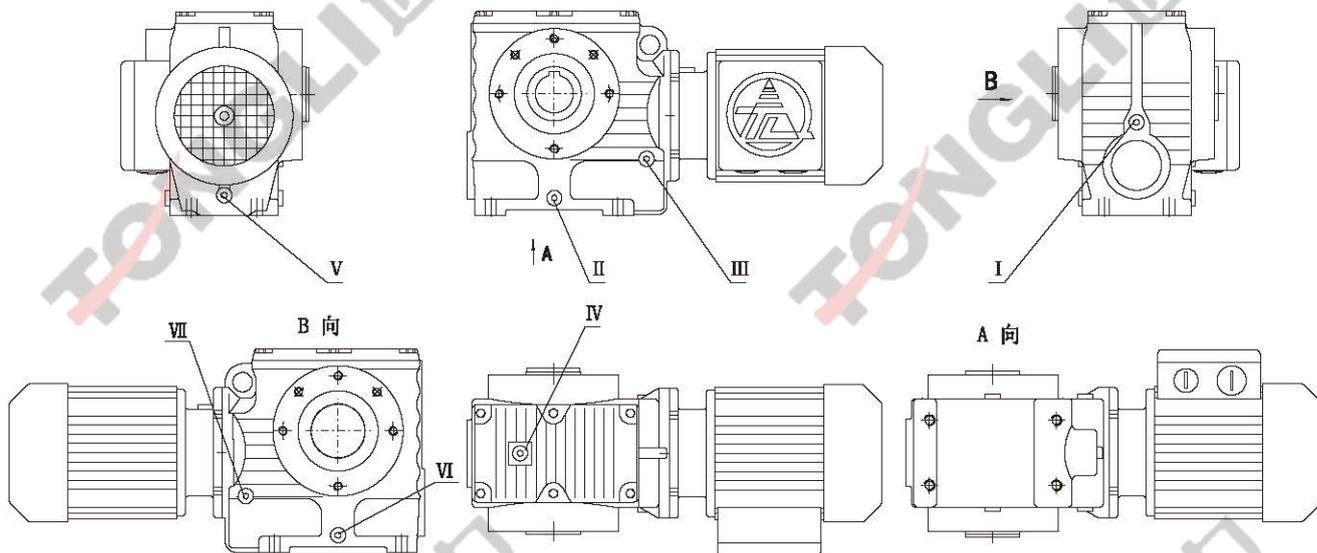
注：油镜安装在两侧且为实心单输出时，装在输出轴反方向，如为双出轴或是空心轴则安装在A面

安装方式 孔位顺序	M1	M2	M3	M4	M5	M6
通气孔	II	II	V	V	VI	II
油镜孔	I/VI	II/IX	I/VI	IV/X	V	V
放油孔	V	V	III	III	III	VI

四大系列通气孔、油镜孔（溢油孔）放油孔位置图
Location of four series's Blowhole、oil immersion lens、drain hole



TSA48~TSA58 TSF48~TSF58



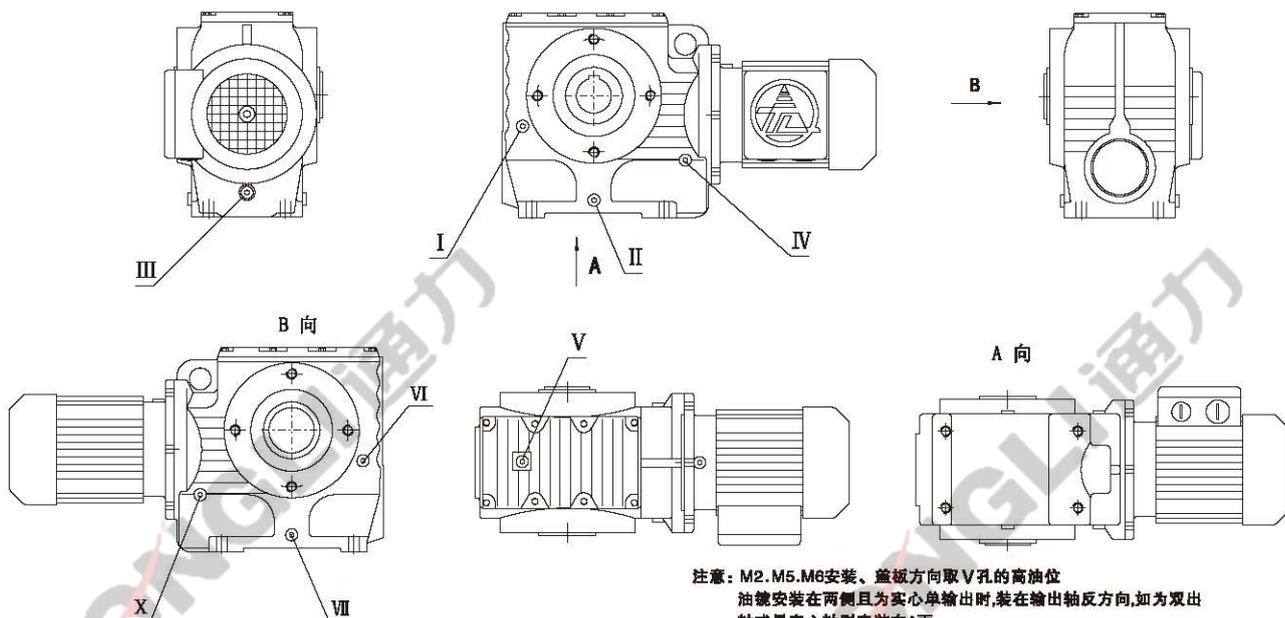
注意：M2安装、盖板方向取IV孔的高油位

油镜安装在两侧且为实心单输出时，装在输出轴反方向，如为双出轴或是空心轴则安装在A面

安装方式 孔位顺序	M1	M2	M3	M4	M5	M6
通气孔	IV	I	II	V	VI	II
油镜孔	I	IV	III/VI	III/VI	IV	IV
放油孔	II	V	IV	I	II	VI

所有M4安装，有条件通气孔钻在直联电机上

TSA68~TSA98 TSF68~TSF98



注意：M2.M5.M6安装、盖板方向取V孔的高油位

油镜安装在两侧且为实心单输出时，装在输出轴反方向，如为双出轴或是空心轴则安装在A面

安装方式 孔位顺序	M1	M2	M3	M4	M5	M6
通气孔	V	I	II	III	VI	I
油镜孔	I/VI	V	IV/X	IV/X	V	V
放油孔	II	III	V	I	I	VI

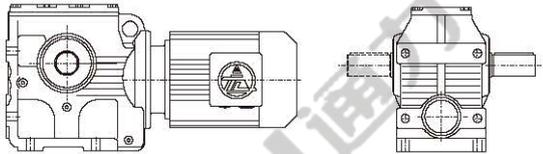
所有M4安装，有条件通气孔钻在直联电机上

TS系列斜齿-蜗轮蜗杆减速机
TS Helical-worm gear units

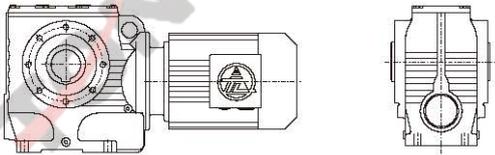


TS系列减速机有以下设计方案：

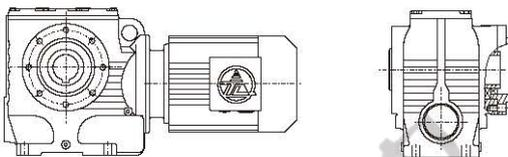
TS series gear units are available in the following designs:



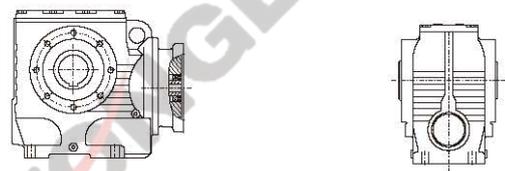
TS..Y..
底脚轴伸式安装斜齿-蜗轮蜗杆减速机
Foot-mounted helical-worm gear units with solid shaft



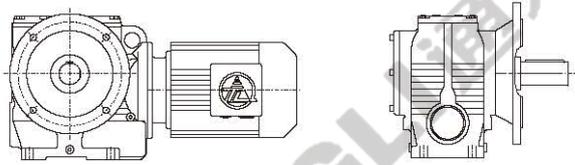
TSA...Y..
空心轴安装斜齿-蜗轮蜗杆减速机
Helical-worm gear units with hollow shaft



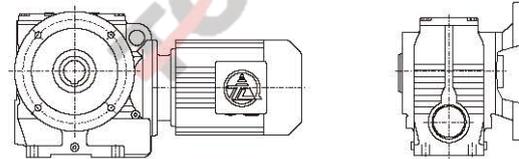
TSAZ...Y..
小法兰空心轴安装斜齿-蜗轮蜗杆减速机
Short-flange mounted helical-worm gear units with hollow shaft



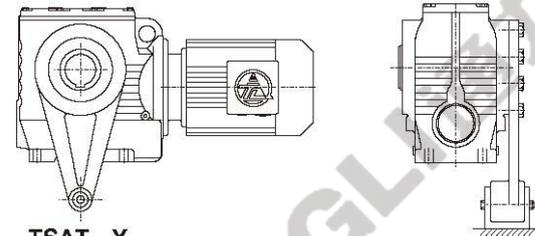
TSA (TS, TSF, TSAF, TSAZ) ...Y...
电机用户自配或配特殊电机时需加联接法兰
When equipping the user's motor or the special one, the flange is required to be connected



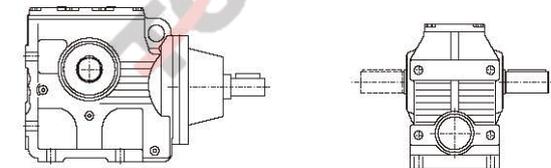
TSF...Y..
法兰轴伸式安装斜齿-蜗轮蜗杆减速机
Flange-mounted helical-worm gear units with solid shaft



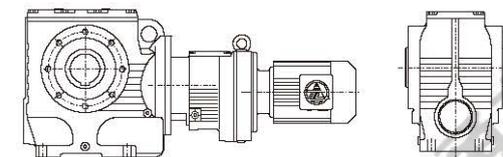
TSAF...Y..
法兰空心轴安装斜齿-蜗轮蜗杆减速机
Flange-mounted helical-worm gear units with hollow shaft



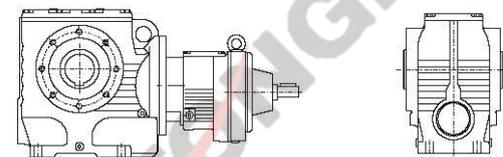
TSAT...Y..
带防转臂空心轴安装斜齿-蜗轮蜗杆减速机
Torque-arm-mounted helical-worm gear units with hollow shaft



TS (TSF, TSA, TSAF, TSAZ) S...
轴输入的斜齿-蜗轮蜗杆减速机
Shaft input helical-worm gear units



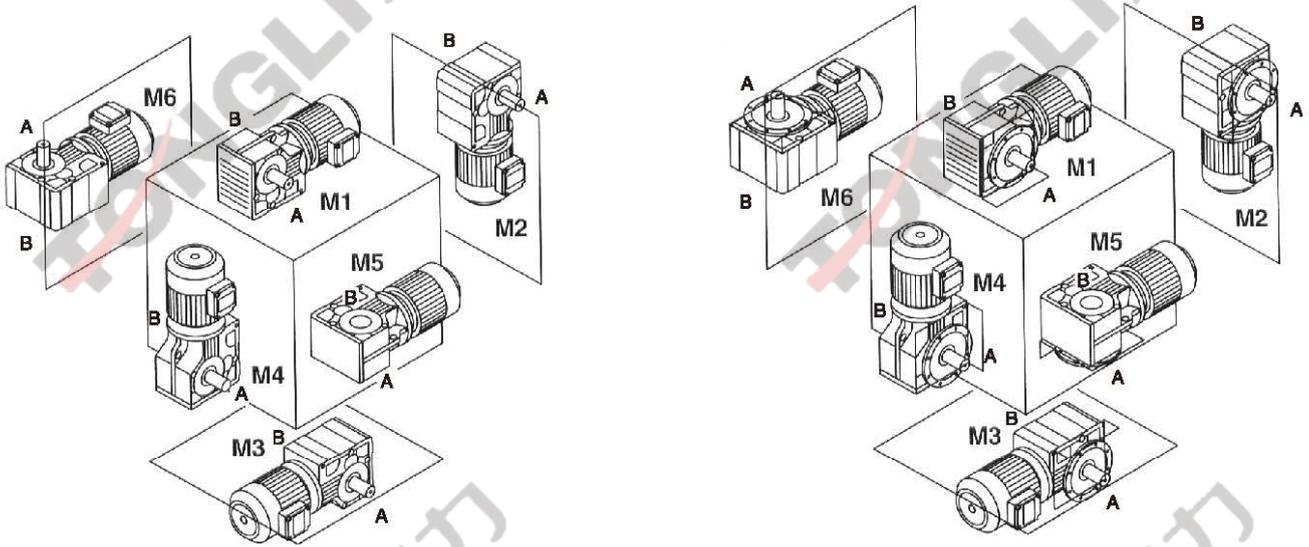
TSA (TS, TSF, TSAF, TSAZ) ...TR...Y...
组合式斜齿-蜗轮蜗杆减速机
Combinatorial helical-worm gear units



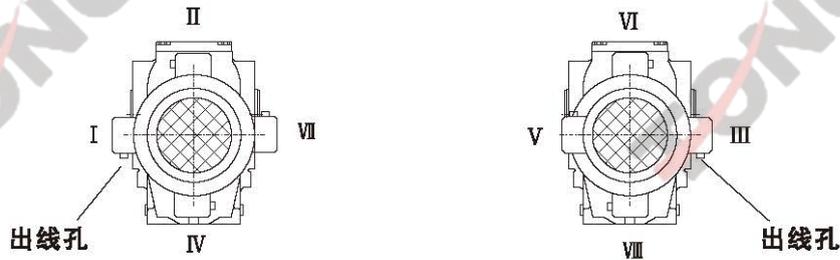
TSA (TS, TSF, TSAF, TSAZ) ...TRS ...
轴输入的组合式斜齿-蜗轮蜗杆减速机
Shaft input combinatorial helical-worm gear units



安装形式
Mounting position



电机接线盒位置 (M1安装时, 从电机尾部看)
Position of the motor terminal box



输入功率及最大转矩*

Input power rating and maximum torque

规格 Size	38	48	58	68	78	88	98
结构形式 Structure	TS		TSA	TSF	TSAF	TSAT	TSAZ
输入功率(kW) Input power rating	0.18~0.75	0.18~1.5	0.18~3	0.25~5.5	0.55~7.5	0.75~15	1.5~22
传动比 Ratio	10.27~152	11.46~244.74	10.78~196.21	11.55~227.20	9.96~241.09	11.83~222	12.75~230.48
最大转矩*(N.m) Maximum torque	90	170	295	520	1270	2280	4000

*) 最大转矩系指该规格不同传动比对应的最大转矩中的最大值。

*) Maximum torque means the biggest one of the maximum torque related to the different ratio for the specified size.

选型参数表
Selection Table



输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _s	机型号 Type Type	极数 Pole P	输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _s	机型号 Type Type	极数 Pole P
0.18kW						0.18kW					
0.40	2838	3483	0.76			15	67	90.00	2.19	TS 48	4
0.47	2385	2928	0.90	TS 88TR58	4	18	57	76.88	2.78	TSF 48	4
0.59	1688	2369	1.28	TSF 88TR58	4	19	53	72.00	2.77	TSA 48	4
0.67	1481	2078	1.46	TSA 88TR58	4	20	59	68.63	2.65	TSAF48	4
0.75	1320	1852	1.64	TSAF88TR58	4	23	45	60.65	3.27		
0.84	1350	1657	1.60			11	96	129.41	0.89		
0.98	1174	1412	1.00			12	83	111.58	1.00		
1.1	1018	1224	1.15			13	77	104.00	1.07		
1.3	782	1098	1.50	TS 78TR38	4	15	67	90.91	1.21		
1.5	796	957	1.47	TSF 78TR38	4	16	63	85.22	1.28		
1.7	698	840	1.68	TSA 78TR38	4	18	56	75.20	1.42		
2.0	591	711	1.99	TSAF78TR38	4	21	49	66.67	1.58		
2.2	533	641	2.21			25	42	56.67	1.83		
2.4	479	576	2.45			26	39	52.80	1.94		
1.9	595	716	0.83			27	45	52.00	1.71		
2.3	512	616	0.96	TS 68TR38	4	31	39	45.45	1.97		
2.6	450	541	1.09	TSF 68TR38	4	33	37	42.61	2.02	TS 38	4
3.0	333	467	1.48	TSA 68TR38	4	37	33	37.60	2.24	TSF 38	4
3.3	301	423	1.64	TSAF68TR38	4	42	29	33.33	2.48	TSA 38	4
3.8	305	367	1.61			49	25	28.33	2.85	TSAF38	4
3.2	307	431	0.91			53	23	26.40	3.05		
3.6	324	390	0.86			59	23	23.46	3.01		
4.2	276	332	1.01	TS 58TR18	4	69	20	20.22	2.47		
4.8	239	288	1.17	TSF 58TR18	4	74	19	18.85	3.55		
5.2	191	268	1.46	TSA 58TR18	4	84	16	16.48	3.08		
6.0	192	231	1.45	TSAF58TR18	4	90	15	15.45	3.16		
6.9	168	202	1.66			102	13	13.63	3.58		
7.4	157	189	1.78			115	12	12.08	3.80		
4.7	210	295	0.76	TS 48TR18	4	135	10	10.27	4.56		
5.4	213	256	0.75	TSF 48TR18	4	145	9	9.57	4.96		
6.1	190	229	0.85	TSA 48TR18	4	0.25kW					
6.8	169	203	0.95	TSAF48TR18	4	0.59	2345	2369	0.92		
3.7	230	227.20	2.14	TS 68	6	0.67	2057	2078	1.05	TS 88TR58	4
4.1	207	205.11	2.38	TSF 68	6	0.75	1833	1852	1.18	TSF 88TR58	4
4.7	182	180.46	2.71	TSA 68	6	0.84	1875	1657	1.15	TSA 88TR58	4
5.0	172	170.40	2.87	TSAF68	6	1.1	1308	1322	1.65	TSAF88TR58	4
4.3	238	196.21	1.17	TS 58	6	1.4	1011	1022	2.14		
4.7	219	180.40	1.27	TSF 58	6	1.5	1105	957	1.06		
5.5	187	154.35	1.49	TSA 58	6	1.7	970	840	1.21	TS 78TR38	4
6.4	182	133.79	1.72	TSAF58	6	2	821	711	1.43	TSF 78TR38	4
7.1	146	196.21	1.91	TS 58	4	2.2	740	641	1.59	TSA 78TR38	4
7.7	134	180.40	2.09	TSF 58	4	2.4	665	576	1.77	TSAF78TR38	4
9.0	115	154.35	2.43	TSA 58	4	2.8	583	505	2.02		
10	99	133.79	2.83	TSAF58	4	2.6	625	541	0.79		
5.1	170	168.00	0.93			3	462	467	1.06	TS 68TR38	4
5.7	152	150.00	1.05	TS 48	6	3.3	419	423	1.17	TSF 68TR38	4
5.8	178	146.84	0.89	TSF 48	6	3.8	424	367	1.16	TSA 68TR38	4
6.2	167	137.25	0.95	TSA 48	6	4.4	316	319	1.56	TSAF68TR38	4
7.2	144	118.64	1.10	TSAF48	6	4.9	324	281	1.52		
5.7	151	244.74	1.06			4.8	333	288	0.84		
6.1	141	228.75	1.14			5.2	265	268	1.05		
7.0	122	197.73	1.32			6	267	231	1.04	TS 58TR18	4
8.3	104	168.00	1.53	TS 48	4	6.9	233	202	1.20	TSF 58TR18	4
9.3	93	150.00	1.71	TSF 48	4	7.4	218	189	1.28	TSA 58TR18	4
9.5	109	146.84	1.46	TSA 48	4	8.3	193	167	1.45	TSAF58TR18	4
10	102	137.25	1.56	TSAF48	4	10	155	134	1.80		
12	88	118.64	1.80								
14	75	100.80	2.11								

选型参数表
Selection Table



输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _s	机型号 Type Type	极数 Pole p	输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _s	机型号 Type Type	极数 Pole p
0.37kW						0.55kW					
7.1	299	196.21	0.93			2.8	1283	505	0.91		
7.7	275	180.40	1.01			3.2	936	430	1.25	TS 78TR38	4
9	235	154.35	1.19			3.6	845	388	1.39	TSF 78TR38	4
10	204	133.79	1.37			4.3	712	327	1.65	TSA 78TR38	4
11	191	125.05	1.46	TS 58	4	4.8	631	290	1.86	TSAF78TR38	4
13	165	108.09	1.69	TSF 58	4	5.7	625	246	1.88		
15	140	91.84	2.00	TSA 58	4	5.6	627	247	0.78	TS 68TR38	4
17	125	82.00	2.24	TSAF58	4	6.3	564	222	0.87	TSF 68TR38	4
20	107	70.04	2.57			7	505	199	0.97	TSA 68TR38	4
21	119	66.89	1.95			8.2	429	169	1.15	TSAF68TR38	4
21	100	65.60	2.70			2	1293	329.81	1.67		
22	111	62.53	2.09			2.3	1146	292.50	1.89		
12	181	118.64	0.87			2.3	1247	289.22	1.73	TS 88	8
14	154	100.80	1.03			2.6	1106	256.50	1.94	TSF 88	8
15	137	90.00	1.07			2.7	964	245.87	2.17	TSA 88	8
18	117	76.88	1.35			3.1	930	215.61	2.19	TSAF88	8
19	110	72.00	1.33			3.4	931	198.00	2.14		
20	122	68.63	1.28			4	783	166.43	2.49		
23	92	60.65	1.60			2.7	979	329.81	2.21		
23	106	59.32	1.38	TS 48	4	3	868	292.50	2.49		
28	90	50.40	1.63	TSF 48	4	3.1	944	289.22	2.29	TS 88	6
31	80	45.00	1.84	TSA 48	4	3.5	837	256.50	2.56	TSF 88	6
36	68	38.44	2.16	TSAF48	4	3.6	730	245.87	2.87	TSA 88	6
39	64	36.00	2.30			4.1	704	215.61	2.90	TSAF88	6
46	54	30.33	2.72			4.5	705	198.00	2.82		
50	56	27.74	2.57			5.3	593	166.43	3.30		
54	53	25.93	1.97			3.3	969	206.04	1.24	TS 78	8
62	46	22.41	2.97			3.5	888	188.89	1.35	TSF 78	8
73	39	19.04	2.67			4	780	165.75	1.54	TSA 78	8
82	35	17.00	2.98			4.3	739	157.08	1.61	TSAF78	8
25	86	56.67	0.89			3.7	858	241.09	1.40	TS 78	6
26	81	52.80	0.93			4.3	734	206.04	1.64	TSF 78	6
27	93	52.00	0.82			4.7	673	188.89	1.79	TSA 78	6
31	81	45.45	0.95			5.3	590	165.75	2.04	TSAF78	6
33	76	42.61	0.98			5.6	559	157.08	2.14		
37	67	37.60	1.10			5.8	547	241.09	2.20	TS 78	4
42	59	33.33	1.22			6.7	467	206.04	2.58	TSF 78	4
49	50	28.33	1.42	TS 38	4	7.4	428	188.89	2.81	TSA 78	4
53	47	26.40	1.49	TSF 38	4	7.4	428	188.89	2.81	TSAF78	4
59	48	23.46	1.44	TSA 38	4	6.1	429	227.20	1.15		
69	41	20.22	1.20	TSAF38	4	6.8	387	205.11	1.27		
74	38	18.85	1.77			7.7	341	180.46	1.44		
84	34	16.48	1.45			8.2	322	170.40	1.53		
90	31	15.45	1.53			9.7	326	144.00	1.51	TS 68	4
102	28	13.63	1.66			11	295	130.00	1.67	TSF 68	4
115	25	12.08	1.82			12	259	114.38	1.90	TSA 68	4
135	21	10.27	2.17			13	245	108.00	2.01	TSAF68	4
145	19	9.57	2.35			15	208	91.96	2.37		
0.55kW						17	189	83.57	2.61		
1.1	2878	1322	0.75			19	164	72.39	2.78		
1.2	2567	1179	0.84			21	172	65.00	2.87		
1.4	2225	1022	0.97			9.6	327	91.84	0.85		
1.5	2288	919	0.94	TS 88TR58	4	11	292	82.00	0.95		
1.6	2164	852	1.00	TSF 88TR58	4	12.5	249	70.04	1.10		
1.9	1552	713	1.39	TSA 88TR58	4	13	278	66.89	0.83	TS 58	6
2.3	1322	607	1.63	TSAF88TR58	4	13.5	234	65.60	1.15	TSF 58	6
2.5	1202	552	1.80			14	260	62.53	0.89	TSA 58	6
3.2	1100	433	1.96			16	225	54.05	1.11	TSAF58	6
						19	191	45.92	1.21		
						22	170	41.00	1.36		
						25	145	35.02	1.60		

选型参数表 Selection Table



输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _s	机型号 Type Type	极数 Pole P	输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _s	机型号 Type Type	极数 Pole P
0.75kW						1.1kW					
13	331	70.04	0.83							TS 78TR38	4
14	310	65.60	0.87	TS 58	6	6.5	1089	216	1.08	TSF 78TR38	4
17	298	54.05	0.84	TSF 58	6					TSA 78TR38	4
20	253	45.92	0.91	TSA 58	6					TSAF78TR38	4
22	226	41.00	1.02	TSAF58	6						
13	334	108.09	0.83			2.4	2186	283.04	1.73		
15	284	91.84	0.98			2.7	1968	254.80	1.93	TS 98	8
17	253	82.00	1.10			3	2136	230.48	1.77	TSF 98	8
20	217	70.04	1.26			3.3	1923	207.48	1.97	TSA 98	8
21	241	66.89	0.96			3.6	1741	187.89	2.13	TSAF98	8
21	203	65.60	1.33								
22	226	62.53	1.02			3.2	1634	283.04	2.32	TS 98	6
26	195	54.05	1.29			3.6	1471	254.80	2.58	TSF 98	6
30	166	45.92	1.40	TS 58	4	3.9	1596	230.48	2.38	TSA 98	6
34	148	41.00	1.57	TSF 58	4	4.4	1437	207.48	2.64	TSAF98	6
40	126	35.02	1.84	TSA 58	4	4.8	1301	187.89	2.86		
42	118	32.80	1.97	TSAF58	4						
46	124	30.12	1.87			4.2	1237	329.81	1.75		
53	108	26.11	2.15			4.8	1097	292.50	1.97		
57	101	24.40	2.30			4.8	1193	289.22	1.81		
66	87	21.09	2.67			5.5	1058	256.50	2.02	TS 88	4
78	74	17.92	2.15			5.7	922	245.87	2.27	TSF 88	4
87	66	16.00	3.09			6.5	890	215.61	2.29	TSA 88	4
102	56	13.67	2.85			7.1	891	198.00	2.23	TSAF88	4
						8.4	749	166.43	2.61		
						9.2	689	152.95	2.75		
						10	611	135.83	3.04		
31	162	45.00	0.90			5.8	1085	241.09	1.11		
36	139	38.44	1.05			6.8	928	206.04	1.30		
39	130	36.00	1.13			7.4	850	188.89	1.41		
46	109	30.33	1.35			8.4	746	165.75	1.61	TS 78	4
50	114	27.74	1.26	TS 48	4	8.9	707	157.08	1.69	TSF 78	4
54	107	25.93	0.97	TSF 48	4	10	619	137.48	1.90	TSA 78	4
62	92	22.41	1.48	TSA 48	4	11	558	123.86	2.06	TSAF78	4
73	78	19.04	1.33	TSAF48	4	13	489	108.65	2.33		
82	70	17.00	1.49			14.6	432	95.88	2.57		
96	60	14.52	1.74			15.2	484	92.18	2.23		
102	56	13.60	1.84								
121	47	11.46	2.20			11	585	130.00	0.84		
						12	515	114.38	0.95		
74	78	18.85	0.86	TS 38	4	13	486	108.00	1.01		
102	56	13.63	0.83	TSF 38	4	15	414	91.96	1.19		
115	50	12.08	0.91	TSA 38	4	17	376	83.57	1.31		
135	42	10.27	1.08	TSAF38	4	19	326	72.39	1.39	TS 68	4
145	39	9.57	1.14			22	341	65.00	1.44	TSF 68	4
						22	284	63.00	1.60	TSA 68	4
						24	300	57.19	1.52	TSAF68	4
						26	284	54.00	1.67		
						30	241	45.98	1.89		
						34	219	41.79	2.08		
						39	190	36.20	2.40		
						44	165	31.50	2.76		
						53	158	26.40	2.88		
						20	315	70.04	0.87		
						21	295	65.60	0.91		
						26	284	54.05	0.88		
						30	241	45.92	0.96		
						34	215	41.00	1.08	TS 58	4
						40	184	35.02	1.26	TSF 58	4
						43	172	32.80	1.35	TSA 58	4
						54	157	26.11	1.48	TSAF58	4
						57	146	24.40	1.59		
						66	127	21.09	1.83		
						78	108	17.92	1.47		
1.1kW						1.1kW					
1.7	4156	824	0.91								
2	3035	702	1.25	TS 98TR58	4						
2.2	3163	627	1.20	TSF 98TR58	4						
2.6	2693	534	1.41	TSA 98TR58	4						
2.9	2446	485	1.55	TSAF98TR58	4						
3.3	2118	420	1.79								
2.3	2624	607	0.82								
2.5	2387	552	0.90								
2.9	2071	479	1.04								
3.2	2184	433	0.99	TS 88TR58	4						
3.8	1613	373	1.34	TSF 88TR58	4						
4.3	1885	327	1.14	TSA 88TR58	4						
5.1	1387	275	1.56	TSAF88TR58	4						
5.4	1298	257	1.45								
6.3	1280	222	1.46								
6.8	1044	207	1.80								

选型参数表 Selection Table



输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _s	机型号 Type Type	极数 Pole p	输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _s	机型号 Type Type	极数 Pole p
2.2kW						2.2kW					
3.3	3163	283.04	1.20	TS 98	6	84	200	16.86	2.28	TS 68	4
3.7	2847	254.80	1.33	TSF 98	6	93	181	15.32	1.78	TSF 68	4
4.1	3091	230.48	1.22	TSA 98	6	107	157	13.27	2.05	TSA 68	4
4.5	2782	207.48	1.36	TSAF98	6	123	137	11.55	2.94	TSAF68	4
5	2519	187.89	1.47			89	189	16.00	1.08	TS 58	4
5	2094	283.04	1.81			104	162	13.67	0.98	TSF 58	4
5.6	1885	254.80	2.01			111	151	12.80	1.05	TSA 58	4
6.2	2046	230.48	1.85	TS 98	4	132	128	10.78	1.25	TSAF58	4
6.8	1842	207.48	2.06	TSF 98	4	3kW					
7.6	1668	187.89	2.23	TSA 98	4	5.1	3811	281	0.99	TS 98TR58	4
8.5	1479	166.62	2.46	TSAF98	4					TSF 98TR58	4
9.4	1337	150.64	2.65							TSA 98TR58	4
11	1133	127.68	3.06							TSAF98TR58	4
17	863	83.31	3.56			5	2855	283.04	1.33		
4.3	2440	329.81	0.88			5.6	2570	254.80	1.47		
4.9	2164	292.50	1.00			6.2	2790	230.48	1.36		
4.9	2353	289.22	0.92			6.8	2511	207.48	1.51	TS 98	4
5.5	2087	256.50	1.02			7.6	2274	187.89	1.63	TSF 98	4
5.8	1819	245.87	1.15			8.5	2017	166.62	1.80	TSA 98	4
6.6	1754	215.61	1.16			9.4	1823	150.64	1.94	TSAF98	4
7.2	1758	198.00	1.13			11	1545	127.68	2.24		
8.5	1477	166.43	1.32	TS 88	4	17	1176	83.31	2.61		
9.3	1358	152.95	1.39	TSF 88	4	8.5	2015	166.43	0.97		
10	1206	135.83	1.54	TSA 88	4	9.3	1851	152.95	1.02		
12	1078	121.44	1.33	TSAF88	4	10	1644	135.83	1.13		
13	969	109.19	1.84			12	1470	121.44	0.97		
15	841	94.77	1.80			13	1322	109.19	1.35		
17	753	84.86	2.29			15	1147	94.77	1.32		
19	783	75.63	1.94			17	1027	84.86	1.68	TS 88	4
20	625	70.40	2.43			19	1068	75.63	1.42	TSF 88	4
21	700	67.62	2.30			20	852	70.40	1.78	TSA 88	4
23	630	60.80	2.41			21	955	67.62	1.69	TSAF88	4
27	546	52.77	2.78			23	859	60.80	1.76		
10	1220	137.48	0.96			27	745	52.77	2.04		
11	1099	123.86	1.04			30	667	47.25	2.27		
13	964	108.65	1.18			33	600	42.47	2.53		
15	851	95.88	1.30			36	554	39.20	2.74		
15	955	92.18	1.13			37	617	38.25	2.46		
17	755	85.00	1.38			15	1302	92.18	0.83		
18	816	78.78	1.24			17	1029	85.00	1.01		
20	748	72.22	1.39			18	1113	78.78	0.91		
22	656	63.38	1.59	TS 78	4	20	1020	72.22	1.02		
24	622	60.06	1.58	TSF 78	4	22	895	63.38	1.16		
27	544	52.57	1.92	TSA 78	4	24	848	60.06	1.16		
30	490	47.36	1.91	TSAF78	4	27	742	52.57	1.40		
34	430	41.54	2.43			30	669	47.36	1.40		
39	380	36.66	2.75			34	587	41.54	1.78	TS 78	4
44	337	32.50	3.10			39	518	36.66	2.01	TSF 78	4
51	287	27.75	3.64			44	459	32.50	2.27	TSA 78	4
55	267	25.79	3.91			51	392	27.75	2.66	TSAF78	4
62	269	22.75	3.84			55	364	25.79	2.87		
66	255	21.56	3.91			62	367	22.75	2.82		
31	476	45.98	0.95			66	348	21.56	2.86		
34	433	41.79	1.05			75	305	18.87	3.17		
39	375	36.20	1.21	TS 68	4	84	274	17.00	2.44		
45	326	31.50	1.39	TSF 68	4	95	241	14.91	3.86		
54	312	26.40	1.46	TSA 68	4	108	212	13.16	3.15		
60	282	23.83	1.61	TSAF68	4	122	188	11.67	4.69		
68	248	20.97	1.83			143	161	9.96	4.15		
72	234	19.80	1.38								

TS

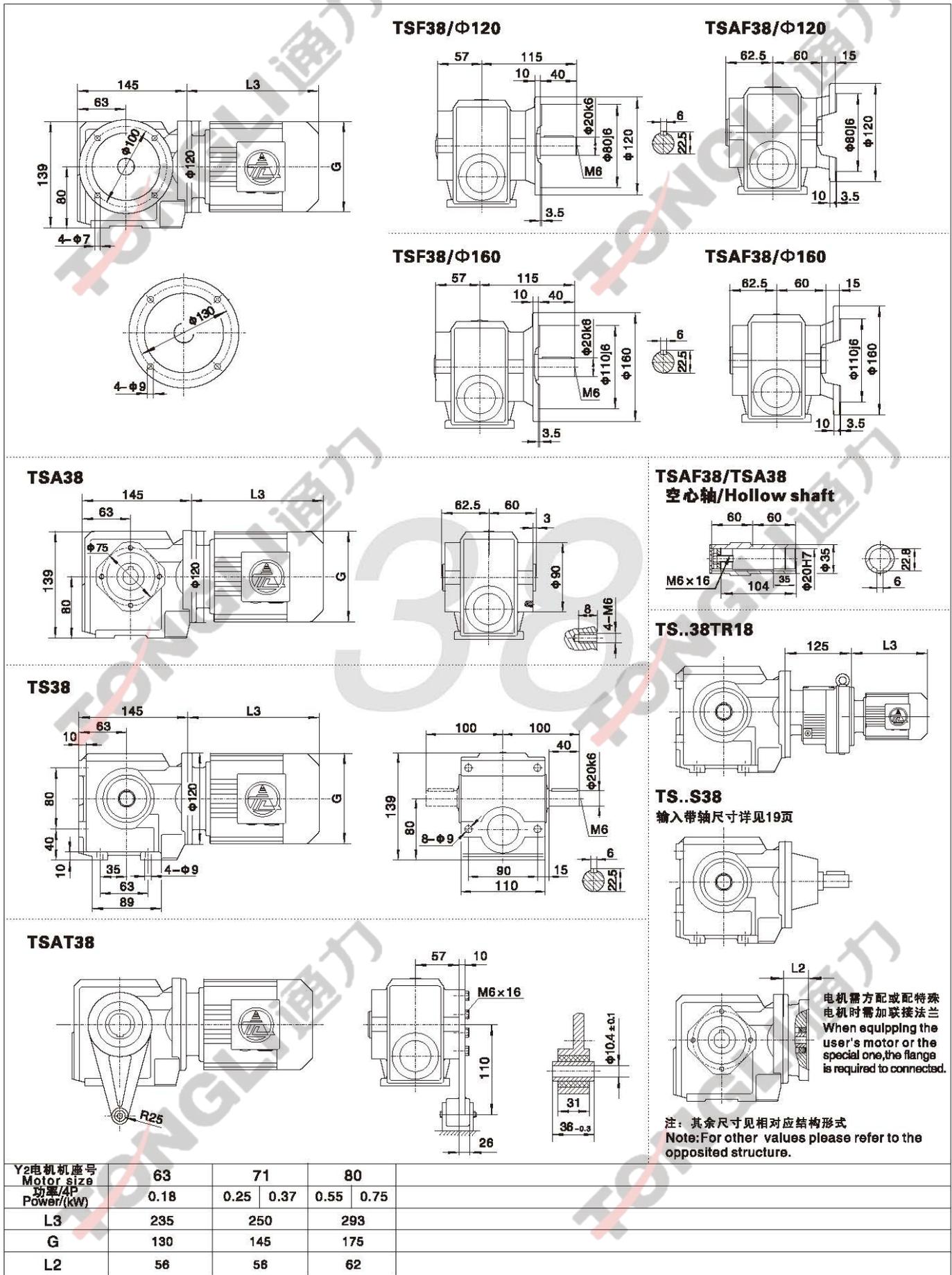
11

选型参数表
Selection Table



输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _B	机型号 Type Type	极数 Pole p	输出转速 Output speed r/min	输出扭矩 Output torque Nm	传动比 Ratio i	服务系数 Service factor f _B	机型号 Type Type	极数 Pole p
7.5kW						15kW					
45	1286	32.76	2.43			55	2065	26.31	1.51		
49	1164	29.67	2.69	TS 98	4	61	1867	23.79	1.62	TS 98	4
55	1032	26.31	3.03	TSF 98	4	72	1582	20.16	1.80	TSF 98	4
61	934	23.79	3.25	TSA 98	4	83	1382	17.61	1.78	TSA 98	4
72	791	20.16	3.61	TSAF98	4	99	1156	14.73	2.35	TSAF98	4
						115	1001	12.75	2.46		
31	1622	47.25	0.93			89	1286	16.39	0.91	TS 88	4
34	1458	42.47	1.04			107	1067	13.80	1.10	TSF 88	4
37	1346	39.20	1.12			123	928	11.83	1.26	TSA 88	4
38	1501	38.25	1.01							TSAF88	4
43	1171	34.09	1.29			18.5kW					
45	1262	32.15	1.20	TS 88	4	45	3150	32.76	0.99		
49	1160	29.55	1.31	TSF 88	4	50	2852	29.67	1.09		
56	1030	26.24	1.14	TSA 88	4	56	2529	26.31	1.23	TS 98	4
62	921	23.46	1.65	TSAF88	4	62	2287	23.79	1.32	TSF 98	4
69	828	21.09	1.42			73	1938	20.16	1.47	TSA 98	4
80	719	18.31	2.11			83	1693	17.61	1.45	TSAF98	4
89	643	16.39	1.83			100	1416	14.73	1.92		
107	534	13.60	2.20			115	1226	12.75	2.01		
123	464	11.83	2.53			22kW					
53	953	27.75	1.09			56	3008	26.31	1.04		
57	886	25.79	1.17			62	2720	23.79	1.11	TS 98	4
64	893	22.75	1.15			73	2305	20.16	1.24	TSF 98	4
88	846	21.56	1.17	TS 78	4	83	2013	17.61	1.22	TSA 98	4
77	741	18.87	1.30	TSF 78	4	100	1684	14.73	1.61	TSAF98	4
86	667	17.00	1.00	TSA 78	4	115	1458	12.75	1.69		
98	585	14.91	1.59	TSAF78	4	11kW					
111	516	13.16	1.29			26	2808	55.76	0.98		
125	458	11.67	1.92			31	2349	46.64	1.33		
147	391	9.96	1.71			36	2034	40.38	1.54		
11kW						40	2094	36.39	1.49		
26	2808	55.76	0.98			45	1886	32.76	1.66	TS 98	4
31	2349	46.64	1.33			49	1708	29.67	1.83	TSF 98	4
36	2034	40.38	1.54			55	1514	26.31	2.07	TSA 98	4
40	2094	36.39	1.49			61	1369	23.79	2.22	TSAF98	4
45	1886	32.76	1.66	TS 98	4	72	1160	20.16	2.46		
49	1708	29.67	1.83	TSF 98	4	83	1014	17.61	2.43		
55	1514	26.31	2.07	TSA 98	4	99	848	14.73	3.21		
61	1369	23.79	2.22	TSAF98	4	115	734	12.75	3.36		
62	1350	23.46	1.12			15kW					
69	1214	21.09	0.97	TS 88	4	31	3203	46.64	0.97		
80	1054	18.31	1.44	TSF 88	4	36	2773	40.38	1.13	TS 98	4
89	943	16.39	1.24	TSA 88	4	40	2856	36.39	1.09	TSF 98	4
107	783	13.60	1.50	TSAF88	4	45	2571	32.76	1.21	TSA 98	4
123	681	11.83	1.72			49	2329	29.67	1.34	TSAF98	4
15kW											
31	3203	46.64	0.97								
36	2773	40.38	1.13	TS 98	4						
40	2856	36.39	1.09	TSF 98	4						
45	2571	32.76	1.21	TSA 98	4						
49	2329	29.67	1.34	TSAF98	4						

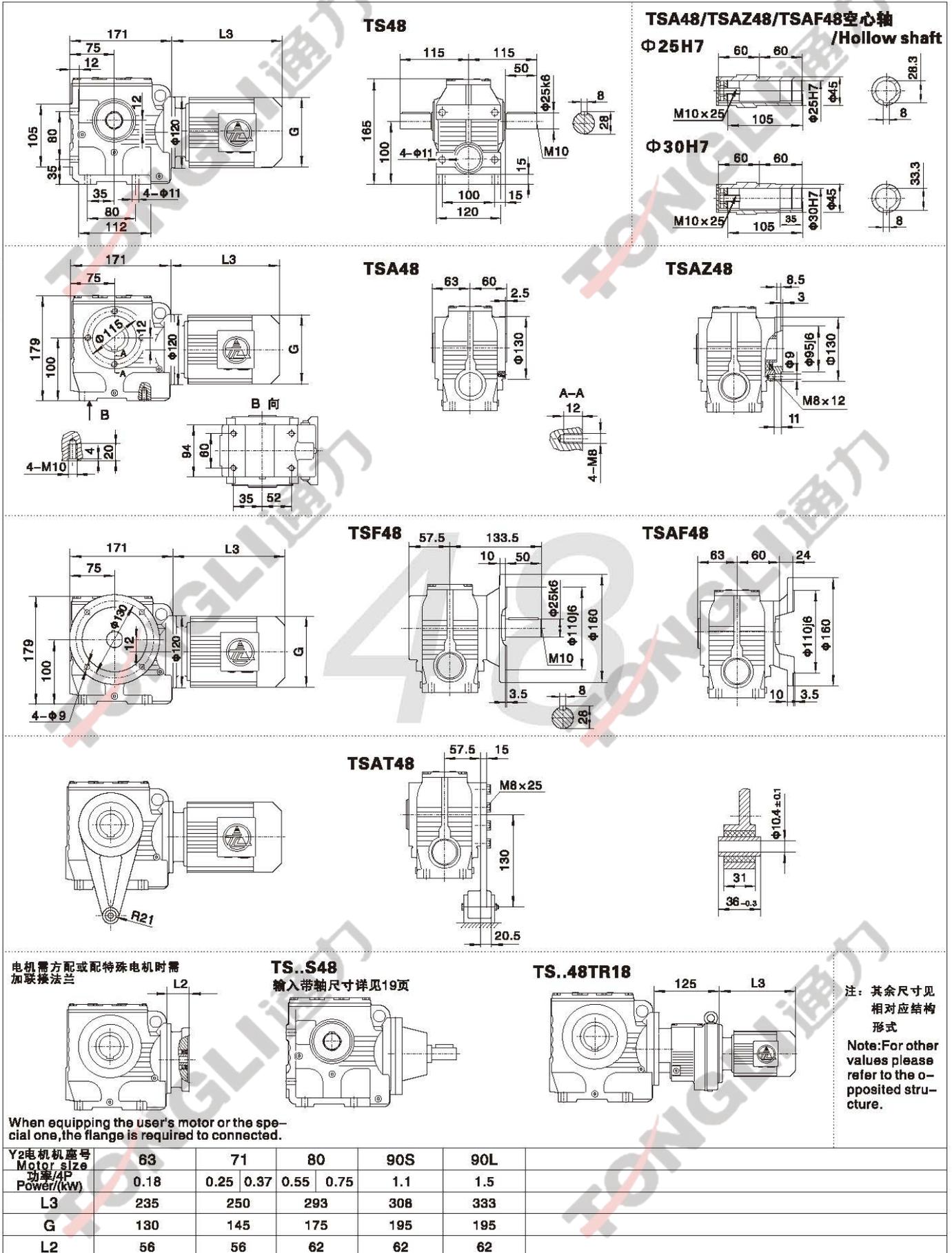
外形安装尺寸 Mounting Dimension Sheets—overview



注:1.TSA、TSF、TSAF、TSAZ壳体为通用件,安装尺寸均可相互参照。2.'TS..'表示TS、TSA、TSF、TSAF、TSAZ 3.带锁紧盘式,详见TK40页
Note:1.The housings of TSA、TSF、TSAF、TSAZ are common parts.The mounting dimensions may consult each other. 2.'TS..'mean TS、TSA、TSF、TSAF、TSAZ 3.Hollow shaft output with shrink disk, see P Tk40 for detail.

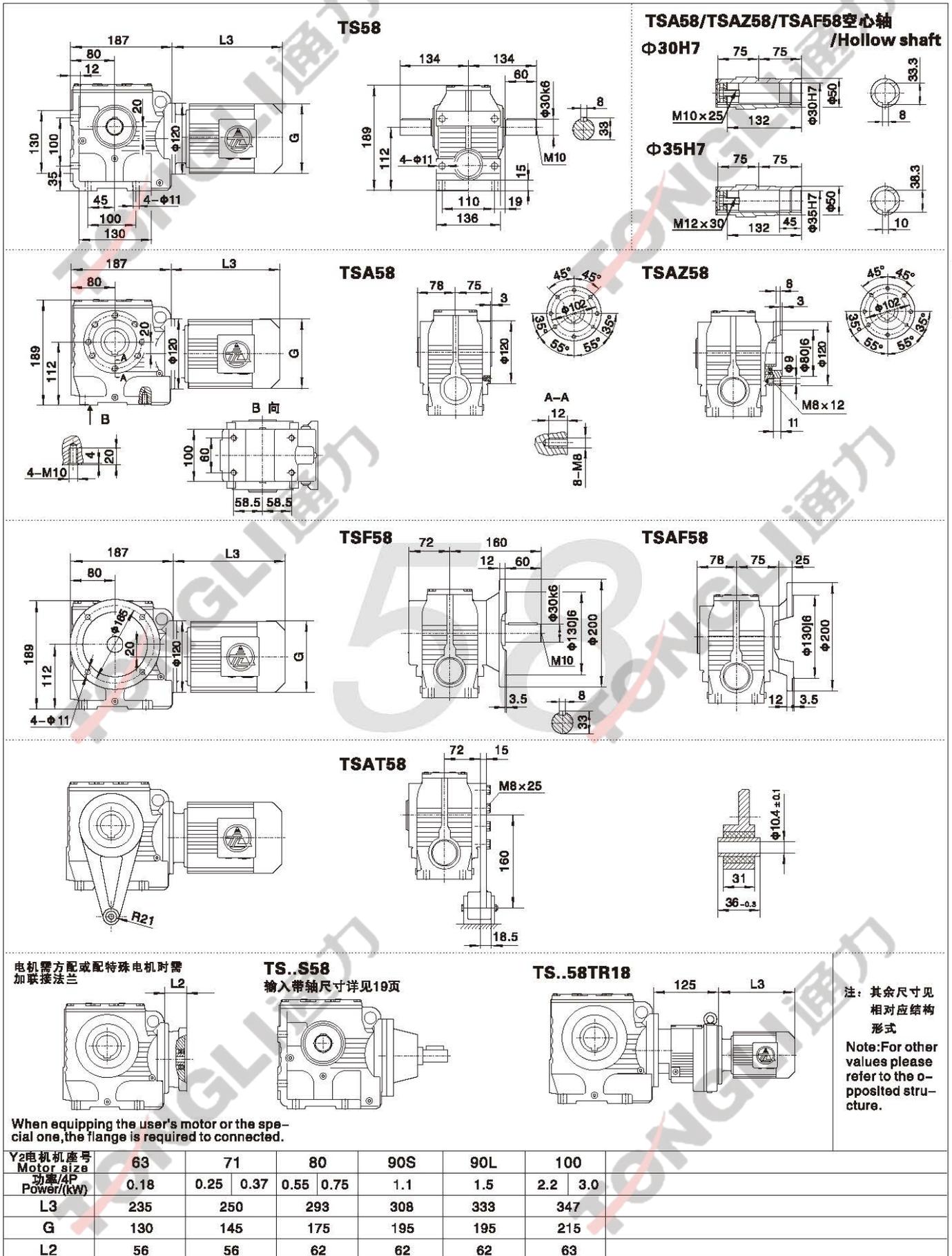
外形安装尺寸
Mounting Dimension Sheets—overview

TS
16

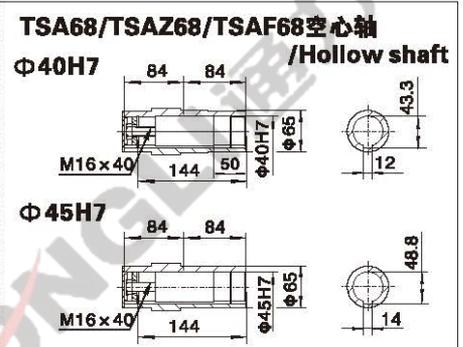
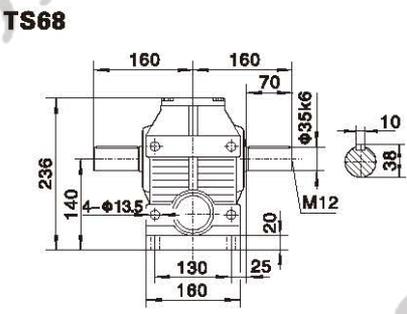
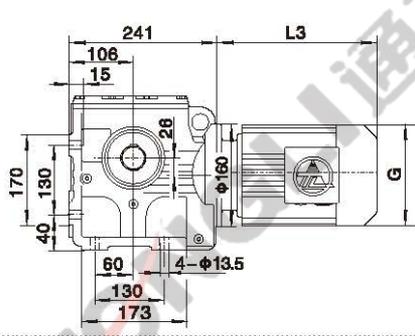


注:1.TSA、TSF、TSAF、TSAZ壳体为通用件,安装尺寸均可相互参照。2.*TS..*表示TS、TSA、TSF、TSAF、TSAZ 3.带锁紧盖式,详见TK40页
Note:1.The housings of TSA、TSF、TSAF、TSAZ are common parts.The mounting dimensions may consult each other. 2.*TS..*mean TS、TSA、TSF、TSAF、TSAZ 3.Hollow shaft output with shrink disk, see P TK40 for detail.

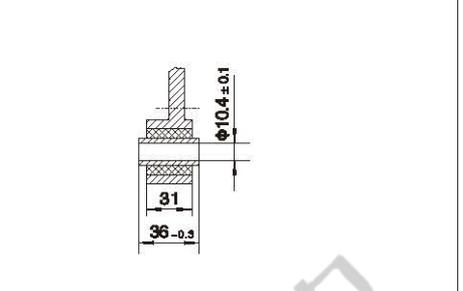
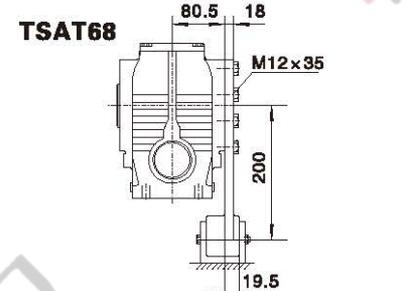
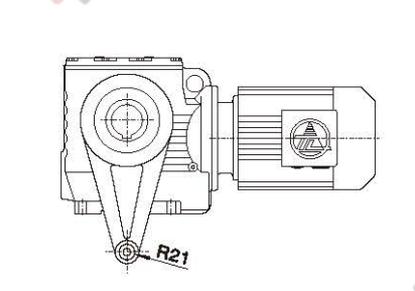
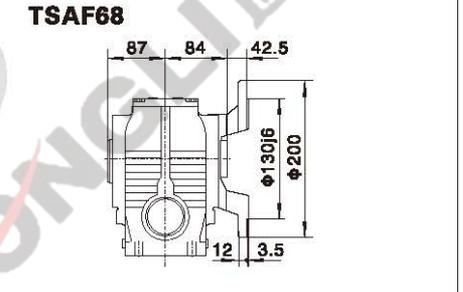
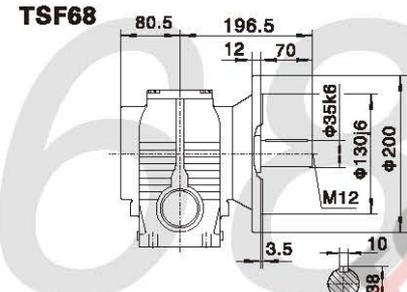
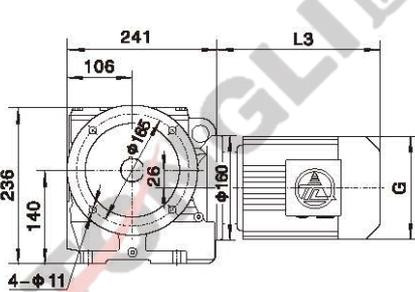
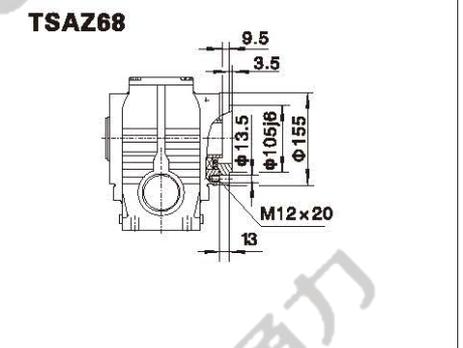
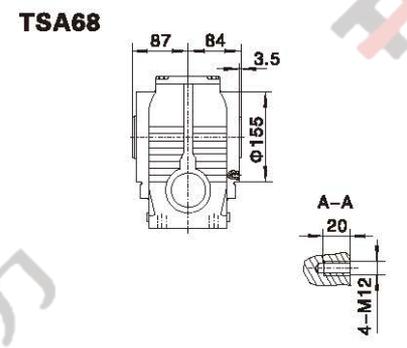
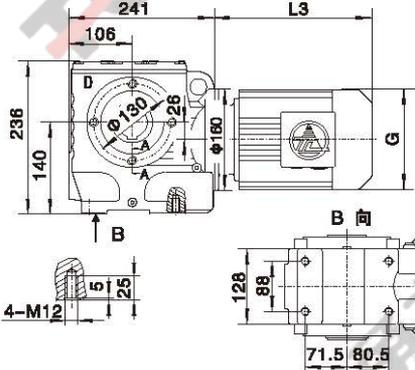
外形安装尺寸 Mounting Dimension Sheets—overview



注:1.TSA、TSF、TSAF、TSAZ壳体为通用件,安装尺寸均可相互参照。 2.'TS..'表示TS、TSA、TSF、TSAF、TSAZ 3.带锁紧盘式,详见TK40页
Note:1.The housings of TSA、TSF、TSAF、TSAZ are common parts.The mounting dimensions may consult each other. 2.'TS..'mean TS、TSA、TSF、TSAF、TSAZ 3.Hollow shaft output with shrink disk, see P TK40 for detail.



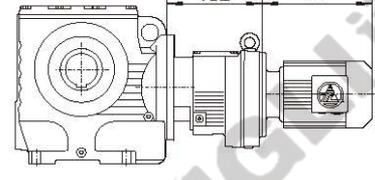
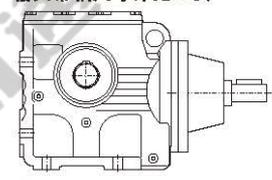
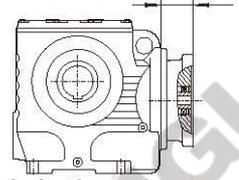
TS
18



电机需方配或配特殊电机时需加联接法兰

TS..S68
输入带轴尺寸详见19页

TS..68TR38



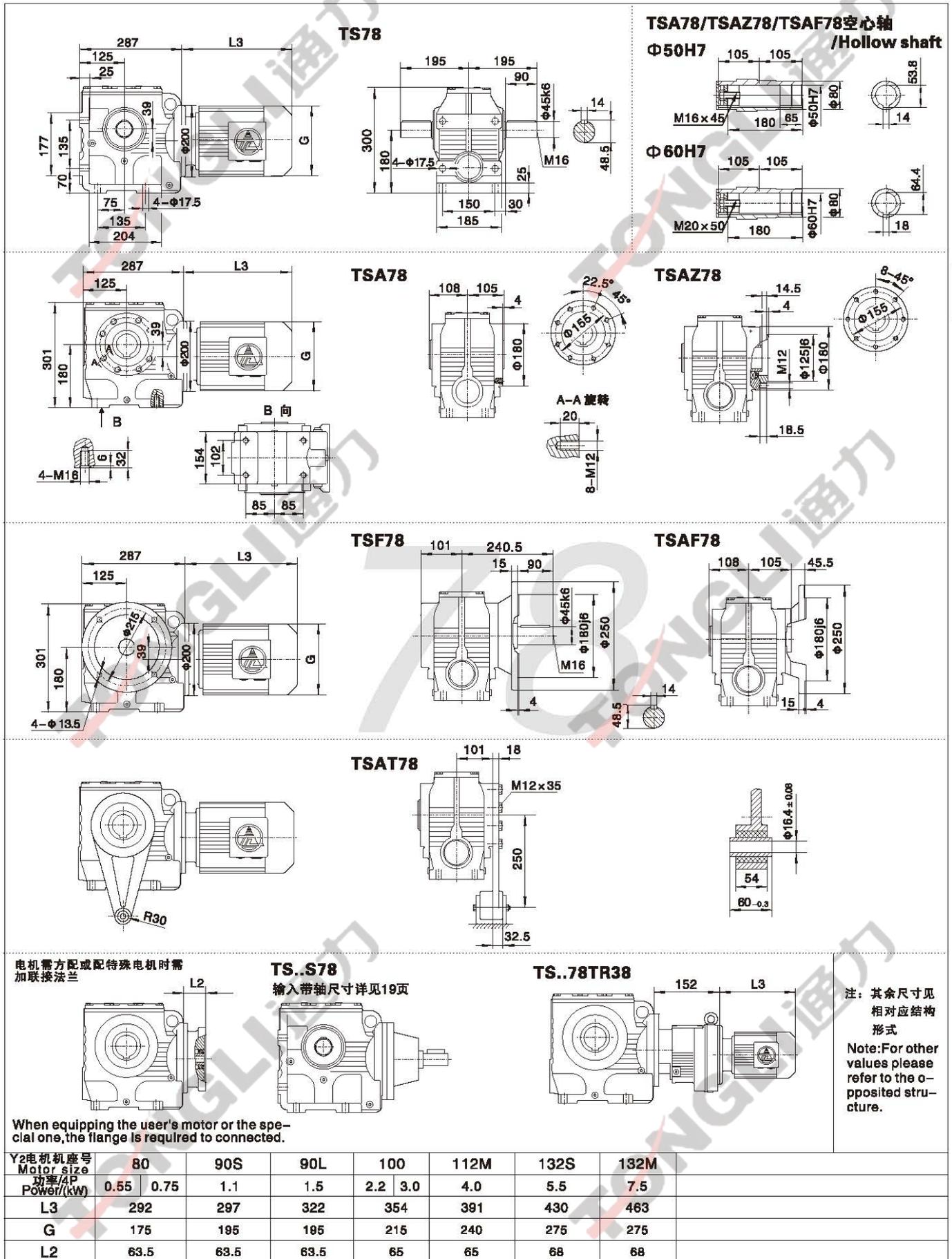
注：其余尺寸见相对应结构形式
Note: For other values please refer to the opposed structure.

When equipping the user's motor or the special one, the flange is required to be connected.

Y2电机机座号 Motor size	71	80	90S	90L	100	112M	132S
功率/4P Power/(kW)	0.25 0.37	0.55 0.75	1.1	1.5	2.2 3.0	4.0	5.5
L3	244	293	304	329	357	383	428
G	145	175	195	195	215	240	275
L2	57	72	72	72	74	74	82

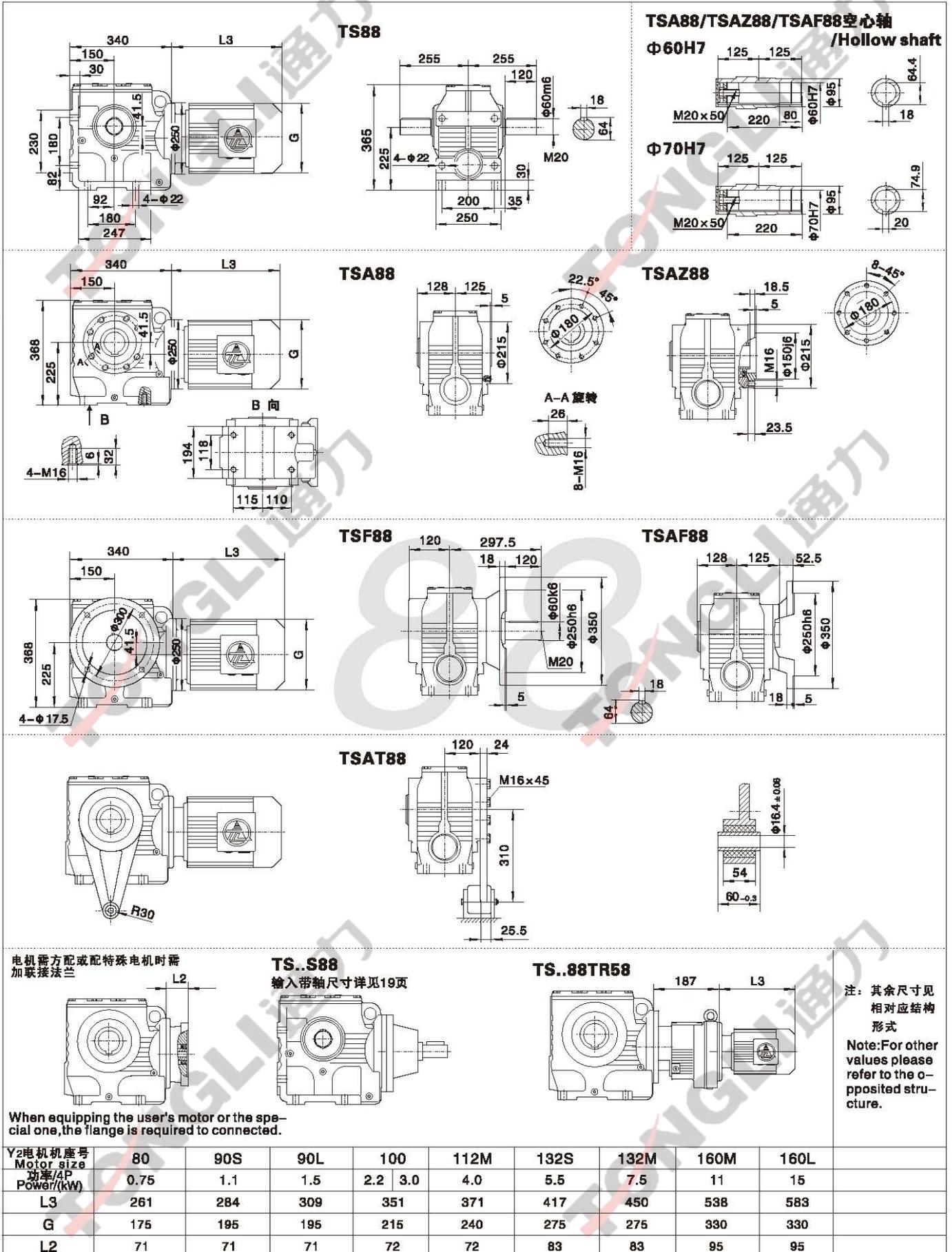
注:1.TSA、TSF、TSAF、TSAZ壳体为通用件,安装尺寸均可相互参照。 2."TS.."表示TS、TSA、TSF、TSAF、TSAZ 3.带锁紧盘式,详见TK40页
Note:1.The housings of TSA、TSF、TSAF、TSAZ are common parts.The mounting dimensions may consult each other. 2."TS.."mean TS、TSA、TSF、TSAF、TSAZ 3.Hollow shaft output with shrink disk, see P TK40 for detail.

外形安装尺寸 Mounting Dimension Sheets-overview



注:1.TSA、TSF、TSAF、TSAZ壳体为通用件,安装尺寸均可相互参照。 2.*TS..*表示TS、TSA、TSF、TSAF、TSAZ 3.带锁紧盘式,详见TK40页
Note:1.The housings of TSA、TSF、TSAF、TSAZ are common parts.The mounting dimensions may consult each other. 2.*TS..*mean TS、TSA、TSF、TSAF、TSAZ 3.Hollow shaft output with shrink disk, see P TK40 for detail.

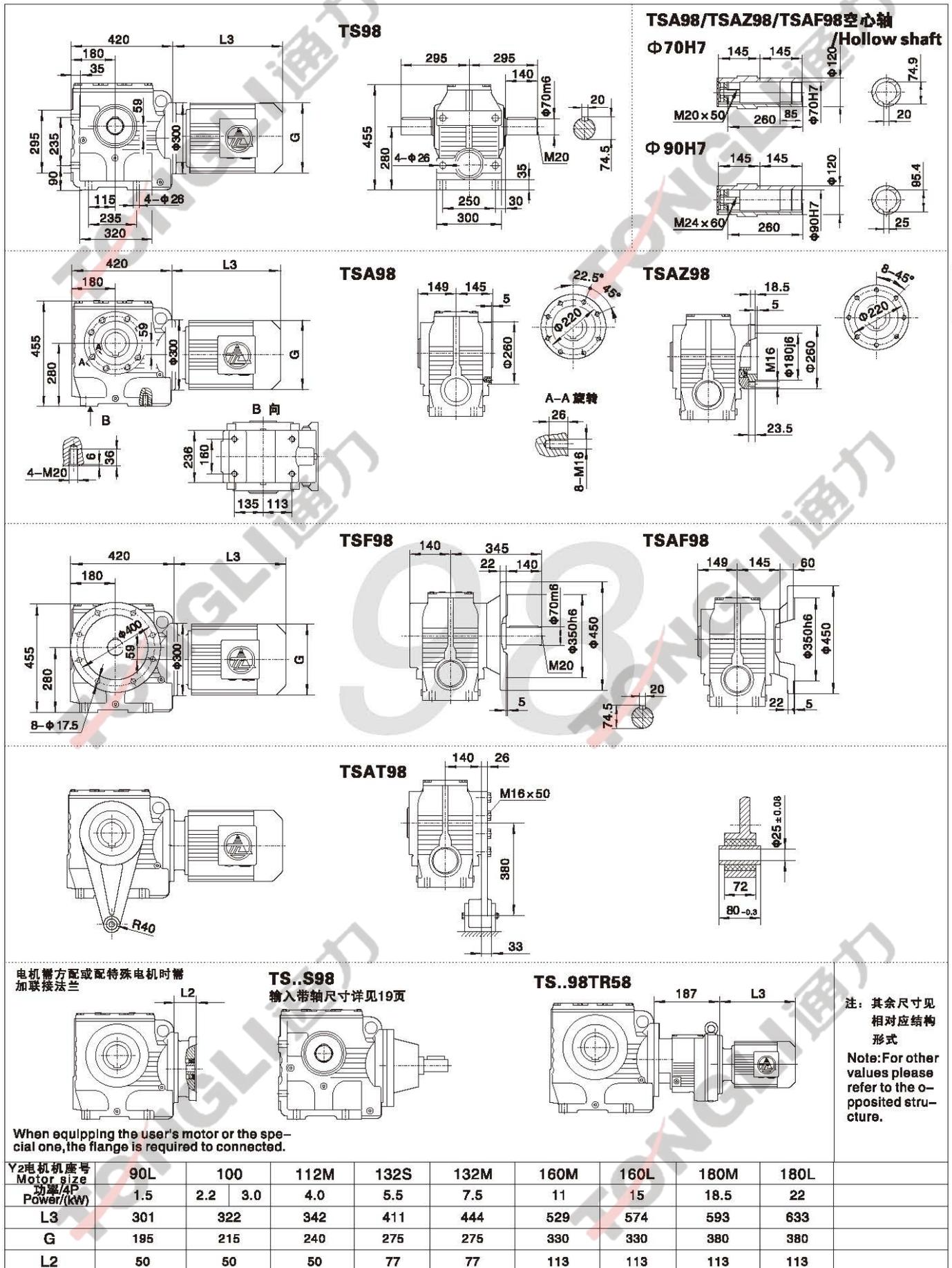
TS
20



注：其余尺寸见相对应结构形式
Note: For other values please refer to the opposite structure.

注:1.TSA、TSF、TSAF、TSAZ壳体为通用件,安装尺寸均可相互参照。 2."TS.."表示TS、TSA、TSF、TSAF、TSAZ 3.带锁紧盘式,详见TK40页
Note:1.The housings of TSA、TSF、TSAF、TSAZ are common parts.The mounting dimensions may consult each other. 2."TS.."mean TS、TSA、TSF、TSAF、TSAZ 3.Hollow shaft output with shrink disk, see P TK40 for detail.

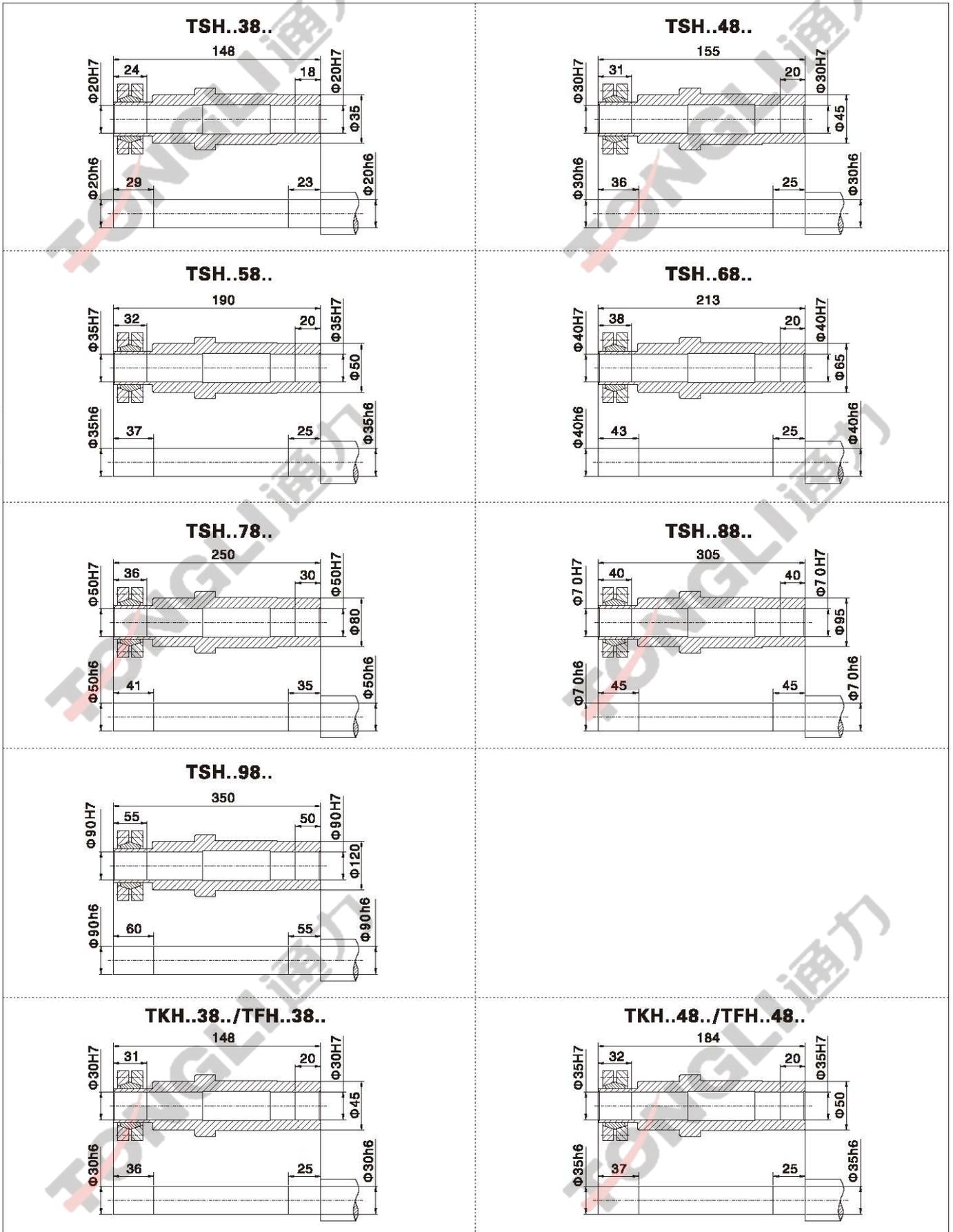
外形安装尺寸 Mounting Dimension Sheets—overview



注:1.TSA、TSF、TSAF、TSAZ壳体为通用件,安装尺寸均可相互参照。 2."TS.."表示TS、TSA、TSF、TSAF、TSAZ 3.带锁紧盘式,详见TK40页
Note:1.The housings of TSA、TSF、TSAF、TSAZ are common parts.The mounting dimensions may consult each other. 2."TS.."mean TS、TSA、TSF、TSAF、TSAZ
3.Hollow shaft output with shrink disk, see P TK40 for detail.

TS、TF、TK系列锁紧盘尺寸图 Dimensions of shrink disk for TS、TF、TK series

TK
 40



注：1.四大系列带锁紧盘型减速机除输出轴不同外，其余均同平键空心轴标准产品。

Note: 1. Except the output shaft, the main four series gear units with shrink disk are the same as the standard ones with hollow shafts with plat key.

减速器润滑

Gear Units Lubrication

润滑油种类选择

Lubricant selection

减速器使用工况	润滑油种类
冶金轧钢、井下采掘、高温有冲击、含水等	L-CKD重载荷工业齿轮油 (GB5903-1995)
其余工况	L-CKC中载荷工业齿轮油 (GB5903-1995)

Operating conditions of gear units	Lubricant specification
Steel rolling, excavating, high temperature with shock, moisture, etc.	L-CKD heavy load industrial gear oil (GB5903-1995)
Others	L-CKC moderate load industrial gear oil (GB5903-1995)

注:若选用合成齿轮油则更具有良好的抗老化性能,可有效地提高减速器的机械效率。

Note: It adopts the synthetic oil which has the better performance of anti-aging so that improves the mechanical efficiency effectively.

润滑油粘度

Lubricant viscosity

条件	润滑油粘度等级 40°C温度下的ISO-VG 粘度 mm ² /s (cst)
高速级圆周速度 v < 2.5 m/s, 或环境温度在 35-50°C 之间	VG320 (或 VG460)
高速级齿轮圆周速度 v > 2.5 m/s, 或环境温度在 35°C 以下, 或采用循环油润滑	VG220

Conditions	Lubricant viscosity classification Viscosity ISO-VG at 40 °C in mm ² /s (cst)
Rotation velocity of high speed stage v < 2.5 m/s, or ambient temperature between 35-50°C	VG320 (or VG460)
Rotation velocity of high speed stage v > 2.5 m/s, or ambient temperature at 35°C, or lubrication with circulating oil	VG220

浸油润滑润滑油的工作温度

Working temperature for dip feed lubrication

润滑油种类	工作温度/°C
中载荷工业齿轮油 L-CKC	-8°C 至 +90°C (瞬时可达 100°C)
重载荷工业齿轮油 L-CKD	-5°C 至 +100°C (瞬时可达 110°C)
蜗轮蜗杆油 L-CKE/P	-5°C 至 +100°C (瞬时可达 110°C)

Lubricant specification	Working temperature/°C
L-CKC moderate load industrial gear oil	From -8°C to +90°C (up to 100°C at moment)
L-CKD heavy load industrial gear oil	From -5°C to +100°C (up to 110°C at moment)

注意:如果减速器的工作温度高于或低于表中规定极限值则应重新确定合适的润滑油。
 当环境温度低于 0°C 时启动前油温需加热到 0°C 以上。

Notes: If the temperatures of gear units are above or below the values as listed in table, it determines the proper oil again. If the ambient temperatures are below 0°C, the oil has to be heated above 0°C.

强制润滑润滑油允许的极限温度

Permissible temperature limit for forced feed lubrication

40°C 温度下的 ISO-VG 粘度 mm ² /s (cst)	强制润滑允许的极限温度/°C	
	矿物油	合成油
VG220	10-80	0-90
VG320	15-90	5-100
VG460	20-95	10-105

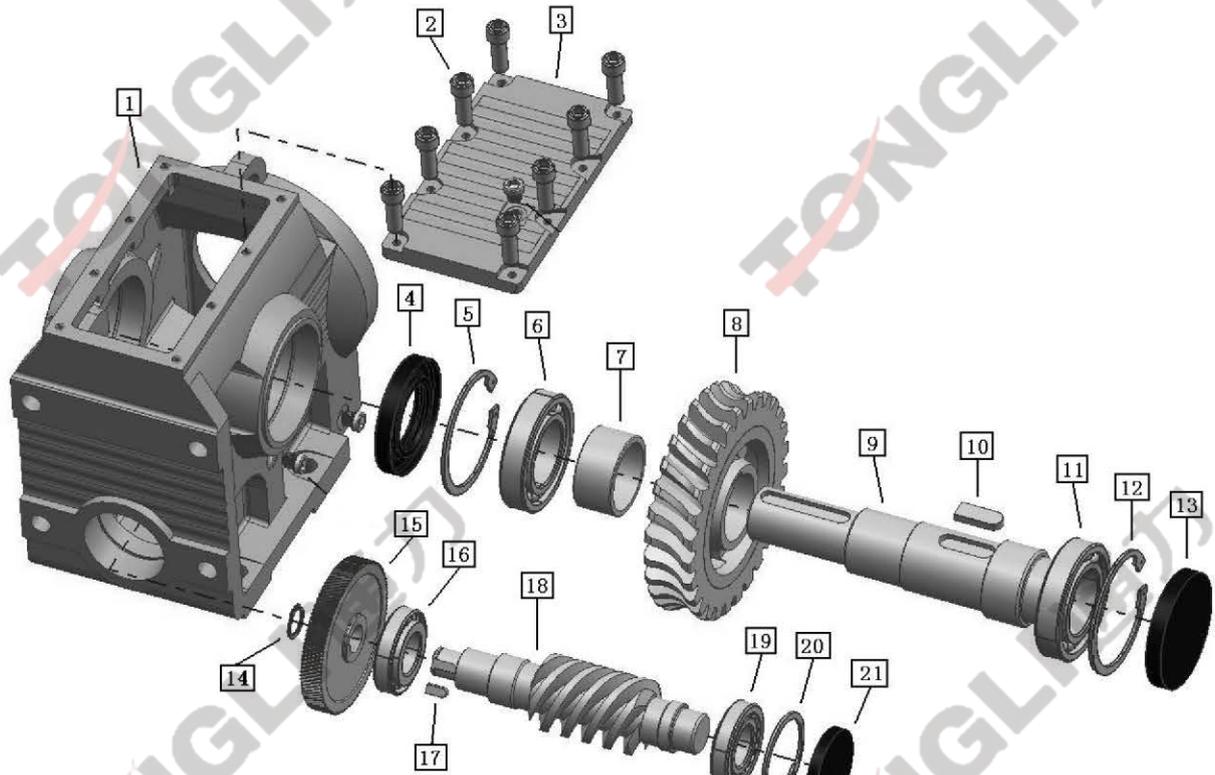
Viscosity ISO-VG at 40 °C in mm ² /s (cst)	Permissible temperature limit for forced feed lubrication/°C	
	Mineral oil	Synthetic oil
VG220	10-80	0-90
VG320	15-90	5-100
VG460	20-95	10-105

注意:当油温低于表中所列数值时,必须提供浸油润滑方式,或对润滑油加热。

Notes: If the temperatures are below the values as listed in table, dip lubrication has to be provided or the oil must be heated.

四、TS系列爆炸图

TS series exploded view



- 1. 箱体
- 2. 螺栓 I
- 3. 盖
- 4. 油封 I
- 5. 孔用挡圈 I
- 6. 轴承 I
- 7. 轴套 I

- 8. 蜗轮
- 9. 输出轴
- 10. 平键 I
- 11. 轴承 II
- 12. 孔用挡圈 II
- 13. 封盖 I
- 14. 轴用挡圈 I

- 15. 齿轮 I
- 16. 轴承 III
- 17. 平键 II
- 18. 蜗杆
- 19. 轴承 IV
- 20. 孔用挡圈 III
- 21. 封盖 II

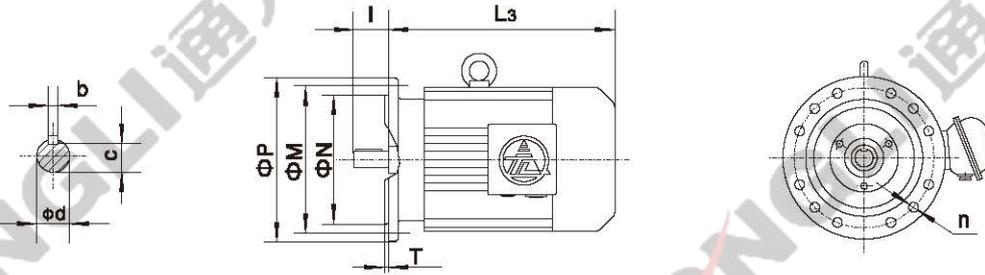
- 1. Housing
- 2. Bolts
- 3. Cover
- 4. Seal
- 5. Circlip
- 6. Bearing
- 7. Bush

- 8. Worm wheel
- 9. Output shaft
- 10. Parallel key
- 11. Bearing
- 12. Circlip
- 13. Cover
- 14. Circlip

- 15. Gear
- 16. Bearing
- 17. Parallel key
- 18. Worm
- 19. Bearing
- 20. Circlip
- 21. Cover

标准普通电机和特殊电机的参数及安装尺寸

Standard and ordinary motor or special motor parameter and mounting dimension



电机 机座号 Motor size	4极 4 Pole		6极 6 Pole		8极 8 Pole		L3				安装尺寸 Mounting dimensions										M(kg)				
	P1 (kW)	n1 (r/min)	P1 (kW)	n1 (r/min)	P1 (kW)	n1 (r/min)	Y ₂	B	E	V	M	N	P	n	T	d	l	b	c	Y (铝壳 Aluminum housing)	Y ₂	B	E	V	
63M1	0.12	1390																		5.5	13			11	
63M2	0.18	1390					202	270	328		115	95j6	140	4xΦ10	3	11j6	23	4	8.5	6	13.5	15		12	
71M1	0.25	1390	0.18	850																6.5	14	16	12	14	
71M2	0.37	1390	0.25	850			225	285	345		130	110j6	160	4xΦ10	3.5	14j6	30	5	11	7.5	14.5	16	13	15	
80M1	0.55	1390	0.37	885	0.18	645														10	15	31	20	16	
80M2	0.75	1390	0.55	885	0.25	645	255	290	350	310	165	130j6	200	4xΦ12	3.5	19j6	40	6	15.5	11	16	32	21	17	
90S	1.1	1400	0.75	910	0.37	670	270	310	370	320	165	130j6	200	4xΦ12	3.5	24j6	50	8	20	16	23	35	27	23	
90L	1.5	1400	1.1	910	0.55	670	295	335	395	345	165	130j6	200	4xΦ12	3.5	24j6	50	8	20	20	25	39	31	28	
100L1	2.2	1420	1.5	920	0.75	680															33	49	41	35	
100L2	3	1420			1.1	680	325	370	420	370	215	180j6	250	4xΦ15	4	28j6	60	8	24			35	53	44	36
112M	4	1440	2.2	940	1.5	690	340	400	450	390	215	180j6	250	4xΦ15	4	28j6	60	8	24		41	67	60	43	
132S	5.5	1440	3	960	2.2	710	390	430	505	450	265	230j6	300	4xΦ15	4	38k6	80	10	33		65	93	85	63	
132M	7.5	1460	4	960	3	710	430	470	545	490	265	230j6	300	4xΦ15	4	38k6	80	10	33		76	105	98	75	
			5.5	960																					
160M	11	1460	7.5	960	4	720	505	545	610	550	300	250h6	350	4xΦ19	5	42k6	110	12	37		118	150	143	116	
					5.5	720																			
160L	15	1460	11	960	7.5	720	560	585	655	595	300	250h6	350	4xΦ19	5	42k6	110	12	37		132	169	165	136	
180M	18.5	1470	/	/	/	/	590	620	715	740	300	250h6	350	4xΦ19	5	48k6	110	14	42.5		164	205	203	169	
180L	22	1470	15	970	11	730	630	640	765	790	300	250h6	350	4xΦ19	5	48k6	110	14	42.5		182	222	216	183	
200L	30	1470	18.5	970	15	730	660	695	790	850	350	300h6	400	4xΦ19	5	55k6	110	16	49		245	300	296	236	
			22	970																					
225S	37	1480	/	/	18.5	730	675	705	860	910	400	350h6	450	8xΦ19	5	60m6	140	18	53		258	360	370	291	
225M	45	1480	30	980	22	730	705	730	890	940	400	350h6	450	8xΦ19	5	60m6	140	18	53		290	390	405	327	
250M	55	1480	37	980	30	730	770	795		1060	500	450h6	550	8xΦ19	5	65m6	140	18	58		388	530	498	393	
280S	75	1480	45	980	37	730	845	870		1160	500	450h6	550	8xΦ19	5	75m6	140	20	67.5		510	660	633	520	
280M	90	1485	55	980	45	740	895	920		1260	500	450h6	550	8xΦ19	5	75m6	140	20	67.5		606	785	723	610	
315S	110	1485	75	980	55	740	1100	1100		1330	600	550h6	660	8xΦ24	6	80m6	170	22	71		910	1000	1150	950	
315M	132	1485	90	985	75	740	1180	1180		1380	600	550h6	660	8xΦ24	6	80m6	170	22	71		1000	1100	1230	1030	
315L	160	1485	110	985	90	740	1270	1270		1450	600	550h6	660	8xΦ24	6	80m6	170	22	71		1055	1100	1320	1100	
	200	1485	132	985	110	740			1128																1160

注：由于结构需要及生产厂家不同，有时参数会有所变化，此表仅供参考，准确尺寸请来电垂询。

Note: Sometimes the parameters may be changed with the different structures and manufacturers, this table is only for reference, please refer to us for the exact dimensions.

APPLICATION
FIELDS

应用领域



钢铁冶金
Steel metallurgy



橡胶塑料
Rubber plastic



石油化工
Petrochemical



环保生态
Environmental
Protection



电力设备
Power equipment



建材机械
Building materials
machinery



港口机械
Port machinery



煤矿机械
Coal mining
machinery



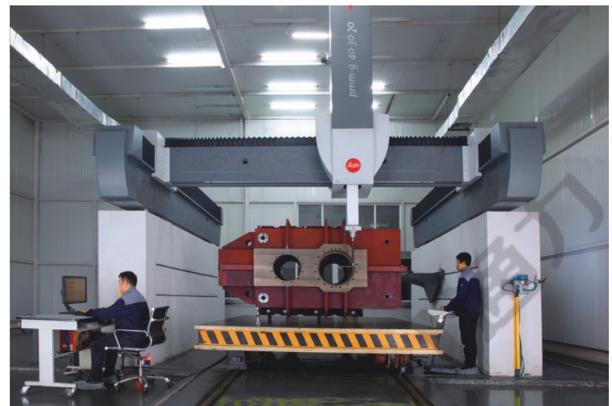
工程机械
Construction
machinery



起重运输
Lifting and
transportation

PROCESSING AND
TESTING EQUIPMENT

加工和检测设备

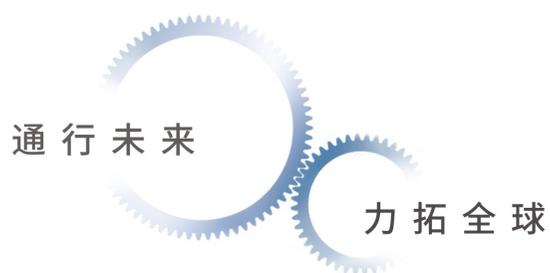


公司荣誉





本册所有产品、设备、场景均为通力科技实景拍摄或三维建模渲染，
图片版权归通力科技所有。



浙江通力传动科技股份有限公司

ZHEJIANG TONGLI TRANSMISSION TECHNOLOGY CO.,LTD

营 销：+86 577 6559 1111 +86 577 6559 2222

售 后：+86 577 6559 3333

传 真：+86 577 6559 8888

网 址：www.zjtongli.com

邮 箱：65598888@zjtongli.com

地 址：浙江省瑞安市江南大道3801号(通力传动科技园)
No. 3801 Jiangnan Road, Rui'an Wenzhou City,
Zhejiang Province, 325207, China



企业官网



企业公众号