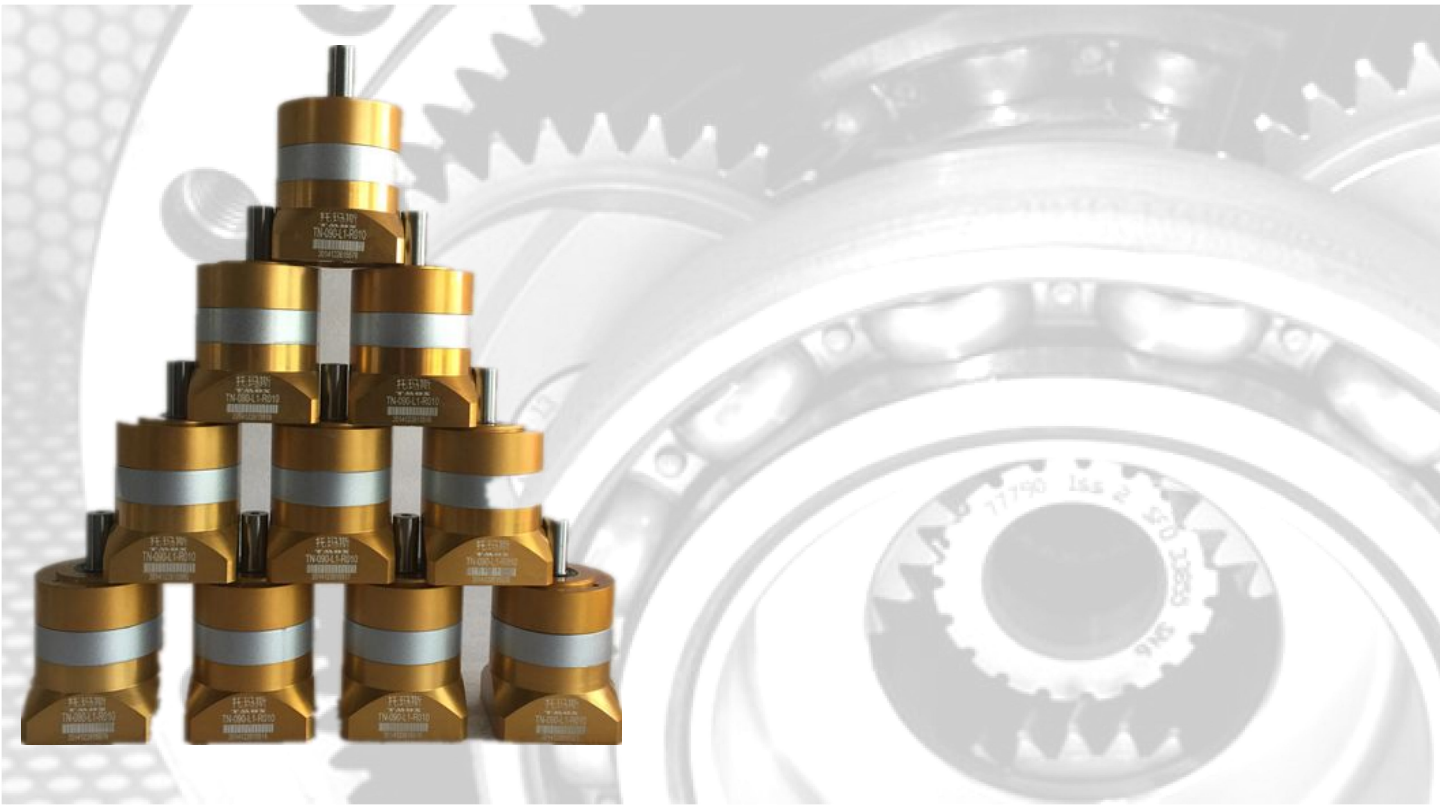
托玛斯
TMOX

精密行星减速机

全球专业行星减速机制造商
Global professional planetary manufacturers



最新资料请浏览网页

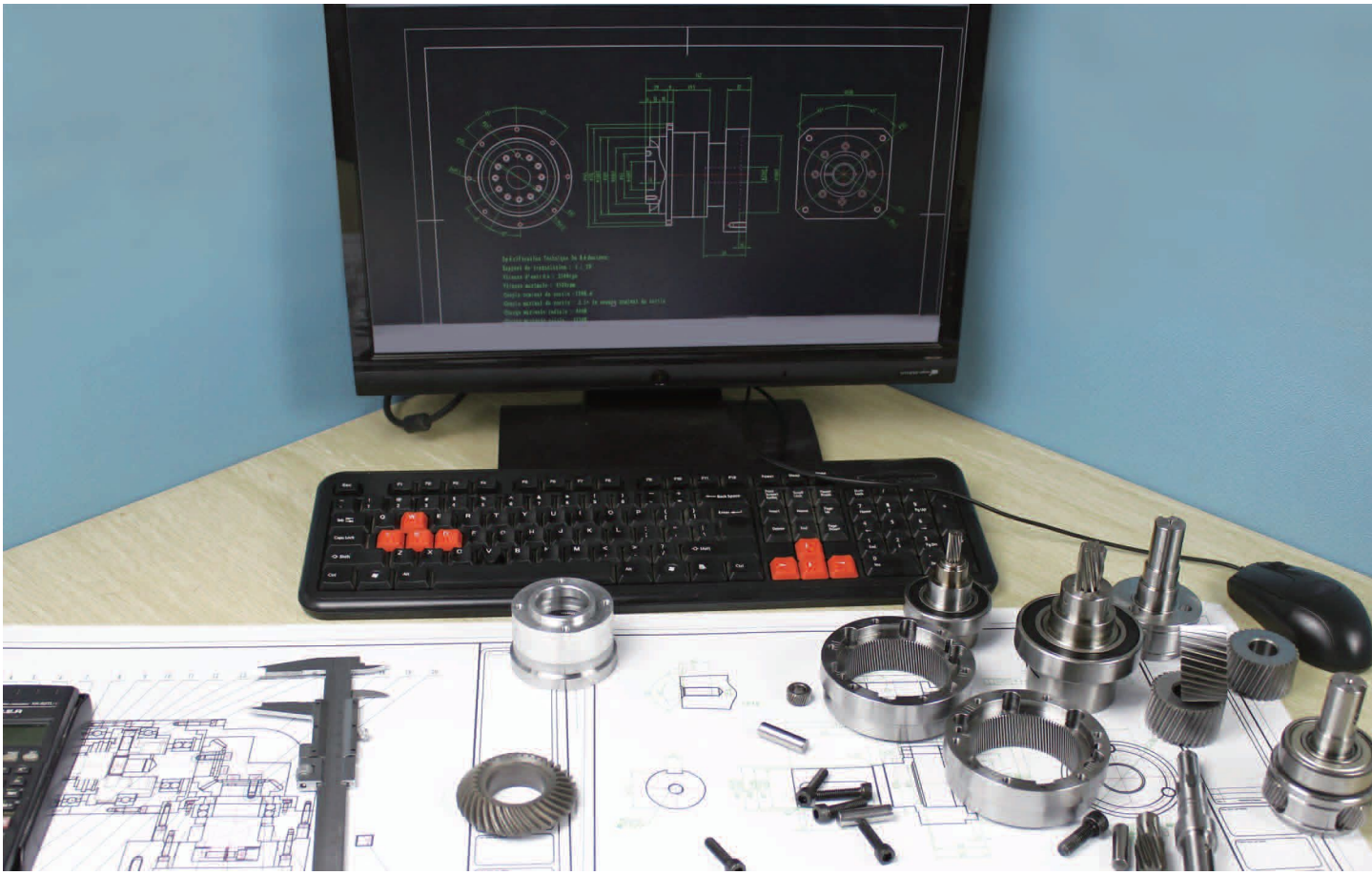
WWW.TMOX.COM.CN 检索

TMOX CO.,LTD.

MADE IN TAIWAN

2015年版

RESEARCH& DEVELOPMENT

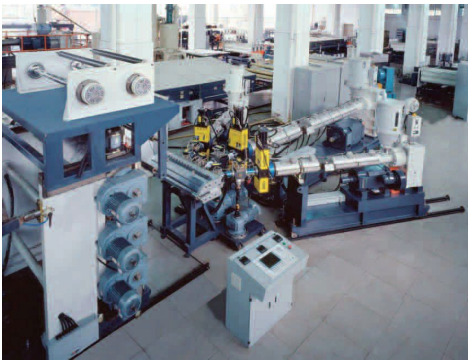


全球专业行星减速机制造商
Global professional planetary manufacturers

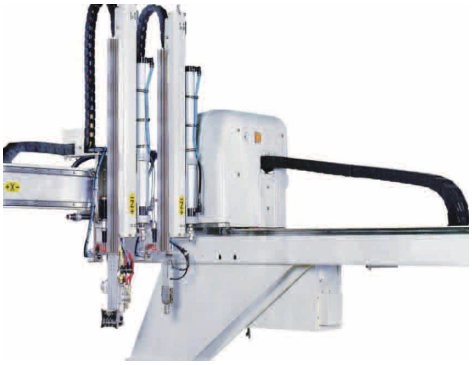
用领先的科技为您创造价值
With leading technology create value for you

应用领域（1）
application area（1）

1 机床
Machine tools

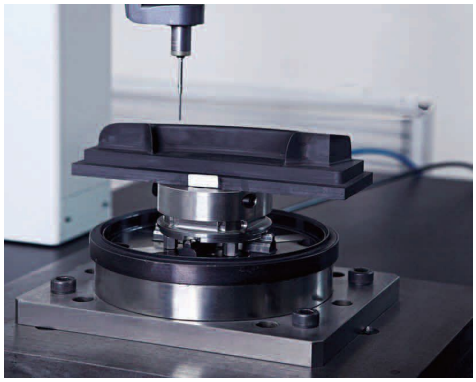


2 机械手
Industrial robots



3 印刷设备
Printing machines

7 医药设备
Medical equivalent



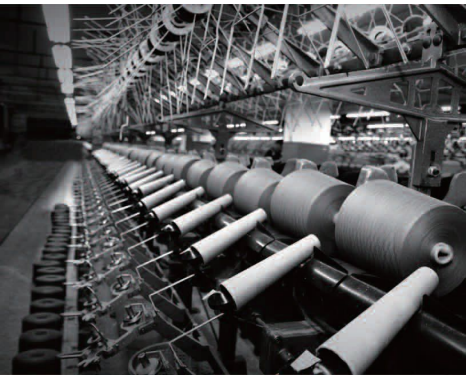
8 检测设备
Measuring equivalent

9 汽车制造
Automotive industry

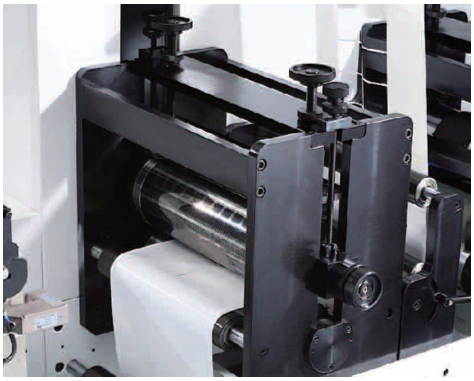
TMOXREDUCER can offer you the all the modifications requested in your field of application. Our sales and service network provides quick availability and competent support. For special requirements we bring you individual solutions. Of course, our services are always cost optimized. Thanks to our professional expertise, our specialists provide technical and market consultation for a wide variety of industrial sectors.

应用领域（2）
application area（2）

4 纺织机械
Textile machines

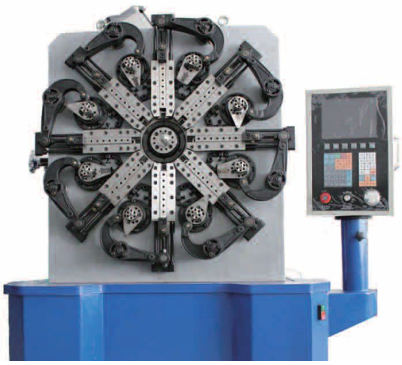


5 包装机械
Packing machines



6 非标设备
Non-standard automatic

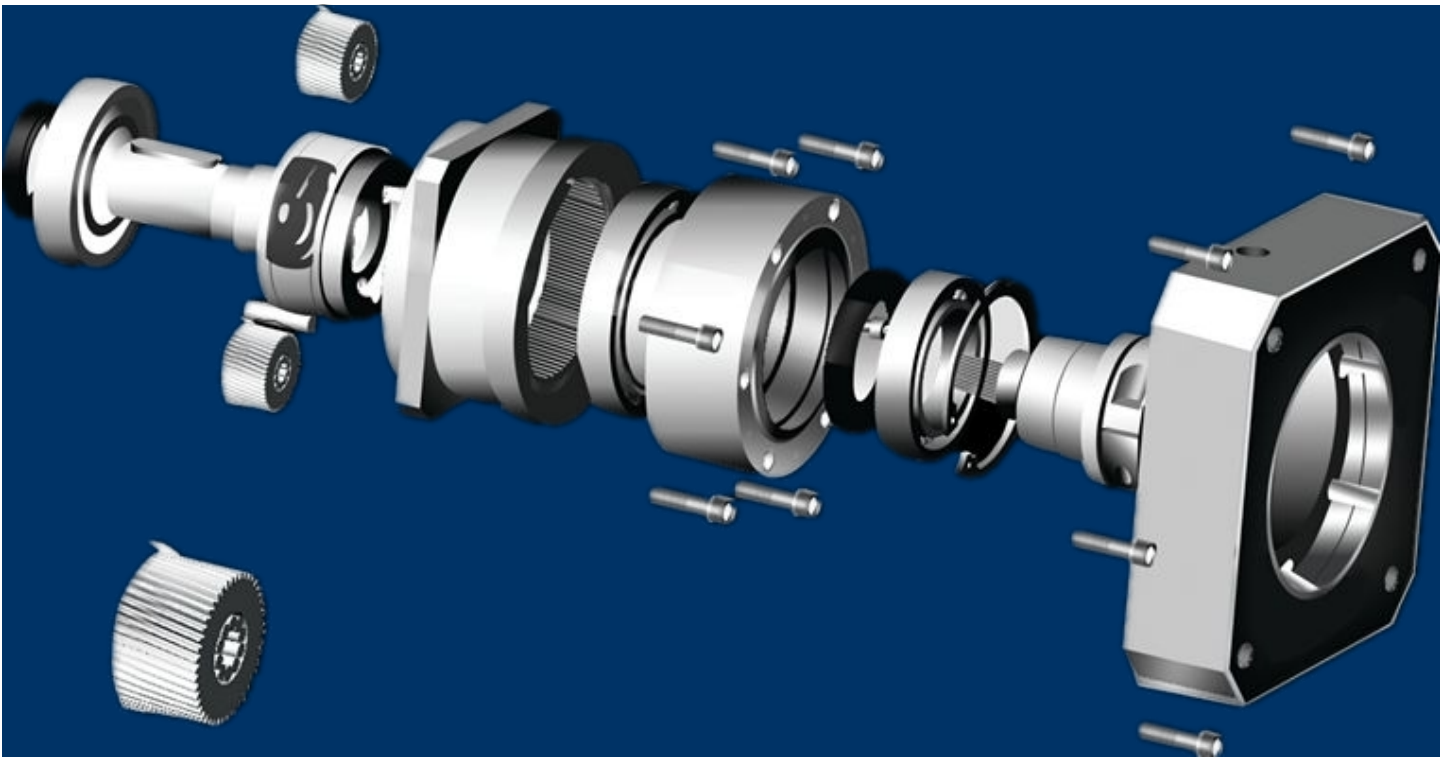
10 卫星通讯
Satellite communication



11 金属加工
Metal processing

12 制药行业
Pharmaceutical industry

在您的应用领域，TMOX行星减速机能够满足您的每一次需求。对于特殊要求，我们将提供相应的解决方案。我们的市场化网络能够确保快速有效的获取信息。目前产品已经应用于工业领域的各个行业，如机床、机械手、印刷设备、纺织机械、包装机械、非标自动化、医疗设备、检测设备、汽车制造、卫星通讯、金属加工、制药行业等工业领域。



所有的零部件均有TMOX严格的质量控制体系把关，行星齿轮和太阳齿均为斜齿轮，渗碳淬火至58-62HRC，进行精密研磨，经过技术修正，以达到完美的传动效果。行星齿轮由满针轴承两端支撑，增强了扭转刚度。行星减速机防护等级达到国际标准IP65(完全防尘、防水)

Desigation	项目	Symbol/符号	Unit/单位
Reduction ratio	减速比	i	
Nominal output torque	额定输出力矩	T_{2N}	Nm
Peak acceleration torque	最大输出力矩	T_{2Not}	Nm
Nominal input shaft speed	额定输入转速	n_{1N}	rpm
Max. input shaft speed	最大输入转速	n_{1Max}	rpm
Backlash	回程间隙	j_t	arcmin
Torsional stiffness	扭转刚性	C_{2t}	Nm/arcmin
Max. radial load	最大径向力	F_{2RMax}	N
Max. axial load	最大轴向力	F_{2AMax}	N
Rotational Inertia	转动惯量	J_1	$kgcm^2$
Working efficiency	工作效率	η	%
Working lifetime	工作寿命	L_h	h
Operating temperature	环境温度	T	℃
Lubrication Method	润滑方式	L	
Protection class	防护等级	PC	
Mounting position	安装方向	MP	

The following table indicates all the symbols and the units that are used in this catalogue. For the 10 gearbox series, all the technical data refer to the present table.

以上表格是所有产品性能表各参数的项目、符号、单位的文字备注，接下来10个系列产品的性能表，请对照此表格进行阅读。

机型型号表示
Indication for model selection

TA	090	R010	P1	GD
Model/系列	Size/规格	Ratio/减速比	Precision/精度	Zone/区域
TA	040/060/090/120/140/180/220	3~100	P0≤1 arcmin P1≤3 arcmin P2≤5 arcmin P3≤standard	GUANG DONG
TE	040/060/090/120/155/205/235	3~100		
TD	060/075/100/140/180/210	3~100		
TF	064/090/110/140/200/255	4~100		
TS	040/060/090/120/140	3~100		
TN	040/060/090/120	3~100		
TX	060/080/100/125	3~100		
TAR/TSR	060/090/120/140	3~100		
TER/TNR	060/090/120/155	3~100		
TFR/TDR	064/090/110/140	4~100		

备注：
L1为1级减速（比数从3比到10比）
L2为2级减速（比数从12比到100比）
两级传动可做出以下传动比：
3*4=12、3*7=21、3*9=27、4*4=16.....

INDEX

高精密斜齿系列 第一章

TA

TAN

TAS

TD

TE

TN

TS

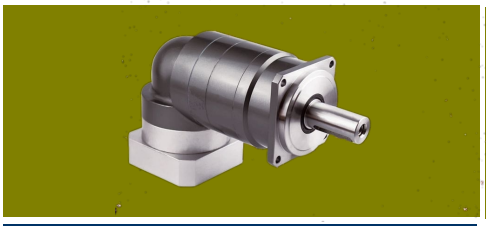
TMX

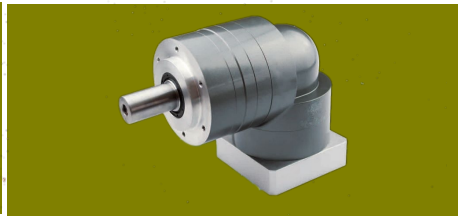
标准直齿系列 第二章

TMK

转角系列 第三章

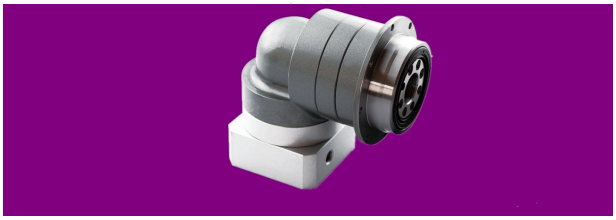
TMKR


TSR


TNR

法兰输出系列 第四章

TF


TFR

精密斜齿系列

型号：

TA TAS/N TD TE TS/N TMX

高性能、用途广、高刚性、低噪音、低背隙
Excellent Performances、broad-soectrum、
high torsional stiffnesshigh efficiency、low noise、low backlash.

第一章

特征 1-002

性能一览表 1-002

尺寸一览表 1-002

- 行星齿轮在轴上由满滚针轴承两端支撑，增强了扭转刚度
- 输出轴两端由高精度低游隙的轴承支撑，以实现更大的承载能力
- 回程间隙≤3弧分
- 从3到100的标准减速比
- 方形法兰输出，快速实现与任何电机输出轴的连接（自定位输入法兰）
- 标准温度为-15℃~45℃，如果您的需求超出此范围，请与我们联系
- 防护等级为IP65
- 终身免维护

- Satellite gears are double-supported on hardened and ground shafts with full-complement needle bearings increasing torsional stiffness.
- Two-stage-gearbox output shaft is supported by 2 high precision bearings granting a superior radial and axial load acceptance.
- Backlash ≤ 3 arcmin.
- Ratios from 3 to 100, custom ratios on demand.
- Very fast mounting process with any servo shaft. Square output flange.
- Standard operating temperature range is -15℃ to 45℃. Available solution on demand for other temperature range.
- Protection rated IP 65 standard.
- Life lubrication.

TA-040

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	20	19	22	22	19	20	15	14	20	19	20	17	22	20	14
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
n_{1Max}	rpm	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	3.0	3.0	3.0	3.0	2.2	3.0	3.0	2.2	3.0	3.0	3.0	3.0	3.0	3.0	2.2
F_{2RMax}	N	750														
F_{2AMax}	N	350														
J_1	$kgcm^2$	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	-15 ~ 45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TA-060

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	55	50	60	60	50	55	45	40	55	50	50	45	60	55	40
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
n_{1Max}	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
F_{2RMax}	N	1530														
F_{2AMax}	N	630														
J_1	$kgcm^2$	0.16	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	-15 ~ 45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TA-090

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	130	140	160	160	140	150	110	100	130	140	140	120	160	140	100
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
F_{2RMax}	N	3250														
F_{2AMax}	N	1300														
J_1	$kgcm^2$	0.61	0.48	0.47	0.47	0.45	0.45	0.42	0.40	0.45	0.45	0.45	0.45	0.40	0.40	0.40
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TA-120

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	208	290	330	330	300	280	260	230	208	290	300	260	330	280	230
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
F_{2RMax}	N	6700														
F_{2AMax}	N	3000														
J_1	$kgcm^2$	3.25	2.74	2.71	2.71	2.62	2.60	2.59	2.57	0.45	0.45	0.45	0.45	0.40	0.40	0.40
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TA-150

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	342	542	650	650	550	520	470	450	342	542	550	500	650	520	450
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
F_{2RMax}	N	9400														
F_{2AMax}	N	4700														
J_1	$kgcm^2$	9.21	7.54	7.42	7.42	7.14	7.14	7.08	7.03	2.63	2.63	2.43	2.43	2.39	2.39	2.39
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TA-180

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	590	1080	1180	1180	1090	980	950	930	590	1080	1090	980	1180	980	930
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	2500	2500	2800	2800	2800	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
n_{1Max}	rpm	5000	5000	5500	5500	5500	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
F_{2RMax}	N	14500														
F_{2AMax}	N	7250														
J_1	$kgcm^2$	28.98	23.67	23.29	22.29	22.48	22.48	22.40	22.51	7.3	7.3	7.1	6.92	6.92	6.72	6.72
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TA-220

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	1140	1700	2000	2000	1800	1650	1650	1500	1140	1700	1800	1580	1750	1650	1500
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	1800	1800	1800	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
n_{1Max}	rpm	3600	3600	3600	3600	3600	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
F_{2RMax}	N	50000														
F_{2AMax}	N	35000														
J_1	$kgcm^2$	69.61	54.37	53.27	53.27	50.97	50.88	50.73	50.56	22.79	22.79	22.59	21.83	21.83	1650	21.60
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

Efficiency

The efficiency of planetary reducers varies with several parameters such as ratio, input speed, temperature, lubrication conditions, etc.
The efficiency was measured under the following working conditions:

Input speed (rpm)	3000
Operating temperature (℃)	25
lubricant	standard

效率特性

减速机的效率一般因减速比、输入转速、负载转速、温度、润滑条件而异。
在下列测定条件下，各系列的效率如下所示。此外，图表的数值均为平均值。

测定条件

输入转速 rpm	3000
环境温度 ℃	25
润滑剂	标准润滑剂

TAS/N-042

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	8	10	10	10	8	8	6	6	16	16	16	13	16	8
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
n_{1Max}	rpm	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
F_{2RMax}	N	750													
F_{2AMax}	N	350													
J_1	$kgcm^2$	0.031	0.022	0.019	0.019	0.017	0.017	0.017	0.016	0.015	0.007	0.007	0.015	0.007	0.007
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TAS/N-060

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	16	16	16	16	16	16	15	15	16	16	16	16	16	15
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
F_{2RMax}	N	950													
F_{2AMax}	N	750													
J_1	$kgcm^2$	0.135	0.093	0.078	0.078	0.075	0.075	0.065	0.063	0.065	0.075	0.075	0.076	0.075	0.075
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TAS/N-090

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	40	40	40	40	40	40	35	35	40	40	40	40	40	35
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
F_{2RMax}	N	1200													
F_{2AMax}	N	1600													
J_1	$kgcm^2$	0.77	0.52	0.45	0.45	0.39	0.39	0.45	0.74	0.71	0.44	0.44	0.51	0.50	0.44
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TAS/N-120

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	100	100	100	100	90	100	100	100	100	100	100	100	100	90
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600
n_{1Max}	rpm	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	13	13	13	13	13	13	13	13	13	13	13	13	13	13
F_{2RMax}	N	1550													
F_{2AMax}	N	2100													
J_1	$kgcm^2$	2.63	1.79	1.53	1.53	1.32	1.32	1.32	2.62	1.75	1.50	1.49	1.53	1.50	1.49
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TAS/N-150

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	390	390	390	390	390	390	310	310	390	390	390	390	390	310
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
n_{1Max}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	41	41	41	41	41	41	41	41	41	41	41	41	41	41
F_{2RMax}	N	6520													
F_{2AMax}	N	4000													
J_1	$kgcm^2$	12.14	7.78	6.07	6.07	4.63	4.63	6.12	12.37	12.35	6.65	5.81	6.07	6.65	5.81
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

Efficiency

The efficiency of planetary reducers varies with several parameters such as ratio, input speed, temperature, lubrication conditions, etc.
The efficiency was measured under the following working conditions:

Input speed （rpm）	3000
Operating temperature （℃）	25
lubricant	standard

效率特性

减速机的效率一般因减速比、输入转速、负载转速、温度、润滑条件而异。
在下列测定条件下，各系列的效率如下所示。此外，图表的数值均为平均值。

测定条件

输入转速 rpm	3000
环境温度 ℃	25
润滑剂	标准润滑剂

TD-060

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	17	26	26	26	26	22	20	17	26	26	26	26	22	17
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3300	3300	3300	4000	4000	4400	4400	4400	4400	4400	4400	4800	5000	5000
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	6	6	6	6	6	6	6	6	6	6	6	6	6	6
F_{2RMax}	N	2800													
F_{2AMax}	N	2400													
J_1	$kgcm^2$	0.40	0.32	0.28	0.28	0.25	0.25	0.25	0.25	0.38	0.33	0.30	0.27	0.26	0.25
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TD-075

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	47	75	75	75	75	68	60	52	75	75	75	75	68	52
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2900	2900	2900	3100	3100	3500	3500	3500	3500	3500	3500	3800	4500	4500
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	10	10	10	10	10	10	10	10	10	10	10	10	10	10
F_{2RMax}	N	4200													
F_{2AMax}	N	3350													
J_1	$kgcm^2$	1.01	0.78	0.68	0.68	0.59	0.59	0.59	0.57	0.95	0.82	0.76	0.67	0.63	0.59
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TD-100

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	120	180	175	175	170	160	140	120	180	180	175	175	160	120
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2500	2500	2500	2800	2800	3100	3100	3100	3100	3100	3100	3500	4200	4200
n_{1Max}	rpm	4500	4500	4500	4500	4500	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	31	31	31	31	31	31	31	31	31	31	31	31	31	31
F_{2RMax}	N	6600													
F_{2AMax}	N	5650													
J_1	$kgcm^2$	3.14	2.40	2.16	2.16	1.93	1.93	1.93	1.90	2.95	2.57	2.38	2.14	160	1.97
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TD-140

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	200	360	360	360	360	340	275	220	360	360	360	360	340	220
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2100	2100	2100	2600	2600	2900	2900	2900	2900	2900	2900	3200	3200	3900
n_{1Max}	rpm	4000	4000	4000	4000	4000	5000	5000	5000	5000	5000	5000	5000	5000	5000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	53	53	53	53	53	53	53	53	53	53	53	53	53	53
F_{2RMax}	N	9900													
F_{2AMax}	N	9580													
J_1	$kgcm^2$	16.77	12.61	10.31	10.31	8.73	8.73	8.64	8.35	15.19	13.05	11.89	10.28	9.39	8.76
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TD-180

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	530	750	750	750	750	750	750	750	750	750	750	750	750	750
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	1500	1500	1500	2300	2300	2700	2700	2700	2700	2700	2700	2900	3200	3400
n_{1Max}	rpm	3500	3500	3500	3500	3500	4500	4500	4500	4500	4500	4500	4500	4500	4500
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	175	175	175	175	175	175	175	175	175	175	175	175	175	175
F_{2RMax}	N	15400													
F_{2AMax}	N	14150													
J_1	$kgcm^2$	54.2	39.44	33.38	33.02	27.49	27.00	26.37	47.0	34.5	31.5	30.8	28.3	26.37	30.36
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TD-210

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	1600	2500	2500	2500	2400	2320	2280	1900	2400	2500	2500	2400	2320	1900
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	1200	1200	1500	1700	2000	2500	2500	2500	2500	2500	2500	2500	3000	3000
n_{1Max}	rpm	2500	2500	2500	2500	2500	3500	3500	3500	3500	3500	3500	3500	3500	3500
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	400	400	400	400	400	400	400	400	400	400	400	400	400	400
F_{2RMax}	N	21000													
F_{2AMax}	N	30000													
J_1	$kgcm^2$	139	83.5	68.1	68.1	54.4	52.2	49.3	47.0	34.5	31.5	30.8	28.3	28.1	28.0
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TE-040

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	20	19	22	22	19	20	15	14	20	19	20	17	22	20	14
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
n_{1Max}	rpm	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	3.0	3.0	3.0	3.0	2.2	3.0	3.0	2.2	3.0	3.0	3.0	3.0	3.0	3.0	2.2
F_{2RMax}	N	750														
F_{2AMax}	N	350														
J_1	$kgcm^2$	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	-15 ~ 45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TE-060

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	55	50	60	60	50	55	45	40	55	50	50	45	60	55	40
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
n_{1Max}	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
F_{2RMax}	N	1530														
F_{2AMax}	N	630														
J_1	$kgcm^2$	0.16	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	-15 ~ 45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TE-090

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	130	140	160	160	140	150	110	100	130	140	140	120	160	140	100
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
F_{2RMax}	N	3250														
F_{2AMax}	N	1300														
J_1	$kgcm^2$	0.61	0.48	0.47	0.47	0.45	0.45	0.42	0.40	0.45	0.45	0.45	0.45	0.40	0.40	0.40
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TE-120

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	208	290	330	330	300	280	260	230	208	290	300	260	330	280	230
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
F_{2RMax}	N	6700														
F_{2AMax}	N	3000														
J_1	$kgcm^2$	3.25	2.74	2.71	2.71	2.62	2.60	2.59	2.57	0.45	0.45	0.45	0.45	0.40	0.40	0.40
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TE-155

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	342	542	650	650	550	520	470	450	342	542	550	500	650	520	450
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
F_{2RMax}	N	9400														
F_{2AMax}	N	4700														
J_1	$kgcm^2$	9.21	7.54	7.42	7.42	7.14	7.14	7.08	7.03	2.63	2.63	2.43	2.43	2.39	2.39	2.39
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	-15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TE-205

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	590	1080	1180	1180	1090	980	950	930	590	1080	1090	980	1180	980	930
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	2500	2500	2800	2800	2800	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
n_{1Max}	rpm	5000	5000	5500	5500	5500	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
F_{2RMax}	N	14500														
F_{2AMax}	N	7250														
J_1	$kgcm^2$	28.98	23.67	23.29	22.29	22.48	22.48	22.40	22.51	7.3	7.3	7.1	6.92	6.92	6.72	6.72
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	-15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TE-235

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	1140	1700	2000	2000	1800	1650	1650	1500	1140	1700	1800	1580	1750	1650	1500
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	1800	1800	1800	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
n_{1Max}	rpm	3600	3600	3600	3600	3600	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200
j_t	arcmin	≤3								≤5						
C_{2t}	Nm/arcmin	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
F_{2RMax}	N	50000														
F_{2AMax}	N	35000														
J_1	$kgcm^2$	69.61	54.37	53.27	53.27	50.97	50.88	50.73	50.56	22.79	22.79	22.59	21.83	21.83	1650	21.60
η	%	≥95								≥90						
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

Efficiency

The efficiency of planetary reducers varies with several parameters such as ratio, input speed, temperature, lubrication conditions, etc.
The efficiency was measured under the following working conditions:

Input speed （rpm）	3000
Operating temperature （℃）	25
lubricant	standard

效率特性

减速机的效率一般因减速比、输入转速、负载转速、温度、润滑条件而异。
在下列测定条件下，各系列的效率如下所示。此外，图表的数值均为平均值。

测定条件

输入转速 rpm	3000
环境温度 ℃	25
润滑剂	标准润滑剂

TS/N-042

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	8	10	10	10	8	8	6	6	16	16	16	13	16	8
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
n_{1Max}	rpm	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500	8500
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
F_{2RMax}	N	750													
F_{2AMax}	N	350													
J_1	$kgcm^2$	0.031	0.022	0.019	0.019	0.017	0.017	0.017	0.016	0.015	0.007	0.007	0.015	0.007	0.007
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TS/N-060

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	16	16	16	16	16	16	15	15	16	16	16	16	16	15
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
F_{2RMax}	N	950													
F_{2AMax}	N	750													
J_1	$kgcm^2$	0.135	0.093	0.078	0.078	0.075	0.075	0.065	0.063	0.065	0.075	0.075	0.076	0.075	0.075
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TS/N-090

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	40	40	40	40	40	40	35	35	40	40	40	40	40	35
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
F_{2RMax}	N	1200													
F_{2AMax}	N	1600													
J_1	$kgcm^2$	0.77	0.52	0.45	0.45	0.39	0.39	0.45	0.74	0.71	0.44	0.44	0.51	0.50	0.44
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TS/N-120

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	100	100	100	100	90	100	100	100	100	100	100	100	100	90
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600
n_{1Max}	rpm	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	13	13	13	13	13	13	13	13	13	13	13	13	13	13
F_{2RMax}	N	1550													
F_{2AMax}	N	2100													
J_1	$kgcm^2$	2.63	1.79	1.53	1.53	1.32	1.32	1.32	2.62	1.75	1.50	1.49	1.53	1.50	1.49
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TS/N-150

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	390	390	390	390	390	390	310	310	390	390	390	390	390	310
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
n_{1Max}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
j_t	arcmin	≤3								≤5					
C_{2t}	Nm/arcmin	41	41	41	41	41	41	41	41	41	41	41	41	41	41
F_{2RMax}	N	6520													
F_{2AMax}	N	4000													
J_1	$kgcm^2$	12.14	7.78	6.07	6.07	4.63	4.63	6.12	12.37	12.35	6.65	5.81	6.07	6.65	5.81
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

Efficiency

The efficiency of planetary reducers varies with several parameters such as ratio, input speed, temperature, lubrication conditions, etc.
The efficiency was measured under the following working conditions:

Input speed （rpm）	3000
Operating temperature （℃）	25
lubricant	standard

效率特性

减速机的效率一般因减速比、输入转速、负载转速、温度、润滑条件而异。
在下列测定条件下，各系列的效率如下所示。此外，图表的数值均为平均值。

测定条件

输入转速 rpm	3000
环境温度 ℃	25
润滑剂	标准润滑剂

TMX-060

Symb.	Unit	1 Stage					2 Stages									
i		3	5	7	9	10	12	15	20	25	35	45	50	70	81	100
T_{2N}	Nm	5.2	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.7
T_{2Not}	Nm	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
j_t	arcmin	P3≤Standard（标准）														
C_{2t}	Nm/arcmin	0.58	0.58	0.58	0.52	0.52	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
F_{2RMax}	N	230														
F_{2AMax}	N	200														
J_1	$kgcm^2$	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
η	%	≥95														
L_h	h	>20000														
T	℃	–15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TMX-080

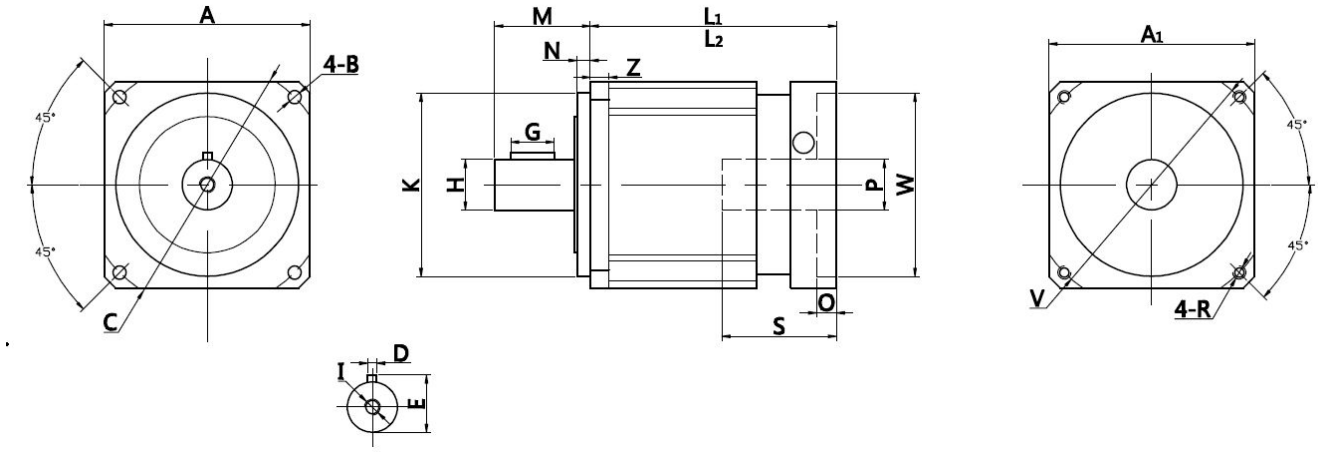
Symb.	Unit	1 Stage					2 Stages									
i		3	5	7	9	10	12	15	20	25	35	45	50	70	81	100
T_{2N}	Nm	40	40	35	40	40	40	40	40	40	35	35	40	40	40	40
T_{2Not}	Nm	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
n_{1N}	rpm	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	P3≤Standard（标准）														
C_{2t}	Nm/arcmin	6.1	6.1	5.5	6.1	6.1	6.1	6.1	6.1	6.1	5.5	5.5	6.1	6.1	6.1	6.1
F_{2RMax}	N	1600														
F_{2AMax}	N	1200														
J_1	$kgcm^2$	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
η	%	≥95														
L_h	h	>20000														
T	℃	–15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TMX-100

Symb.	Unit	1 Stage					2 Stages									
i		3	5	7	9	10	12	15	20	25	35	45	50	70	81	100
T_{2N}	Nm	100	100	100	90	90	100	100	100	100	100	100	100	100	100	100
T_{2Not}	Nm	480	480	480	480	480	480	480	480	480	480	480	480	480	480	480
n_{1N}	rpm	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600
n_{1Max}	rpm	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
j_t	arcmin	P3≤Standard（标准）														
C_{2t}	Nm/arcmin	16.5	16.5	16.5	14.5	14.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
F_{2RMax}	N	2100														
F_{2AMax}	N	1550														
J_1	$kgcm^2$	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
η	%	≥95														
L_h	h	>20000														
T	℃	–15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

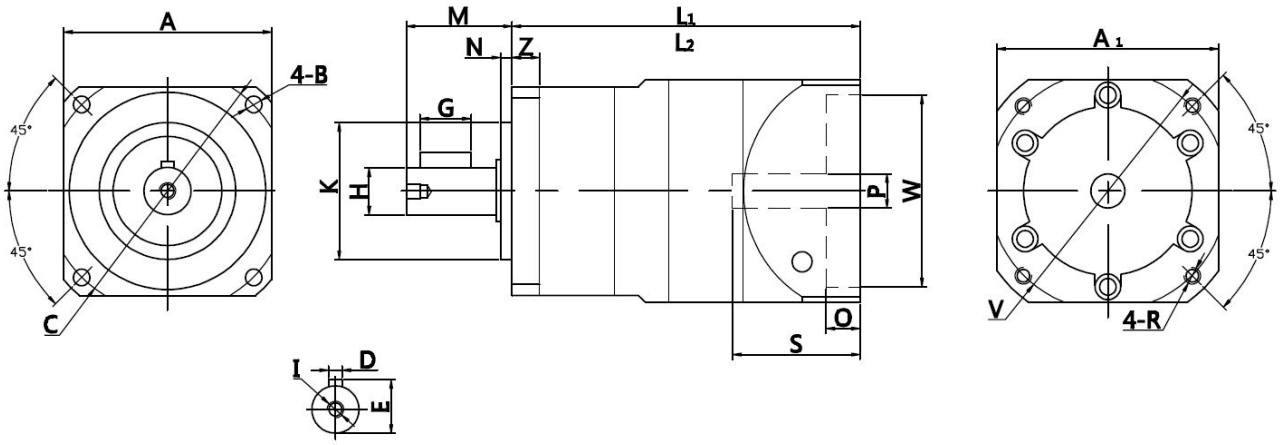
TMX-125

Symb.	Unit	1 Stage					2 Stages									
i		3	4	5	7	10	15	16	20	25	30	35	40	50	70	100
T_{2N}	Nm	208	290	330	300	230	208	220	290	330	310	300	260	330	300	230
T_{2Not}	Nm	3 X T_{2N}														
n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
j_t	arcmin	P3≤Standard（标准）														
C_{2t}	Nm/arcmin	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
F_{2RMax}	N	6700														
F_{2AMax}	N	3000														
J_1	$kgcm^2$	3.25	2.74	2.71	2.62	2.57	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.44	0.44	0.44
η	%	≥95														
L_h	h	>20000														
T	℃	–15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														



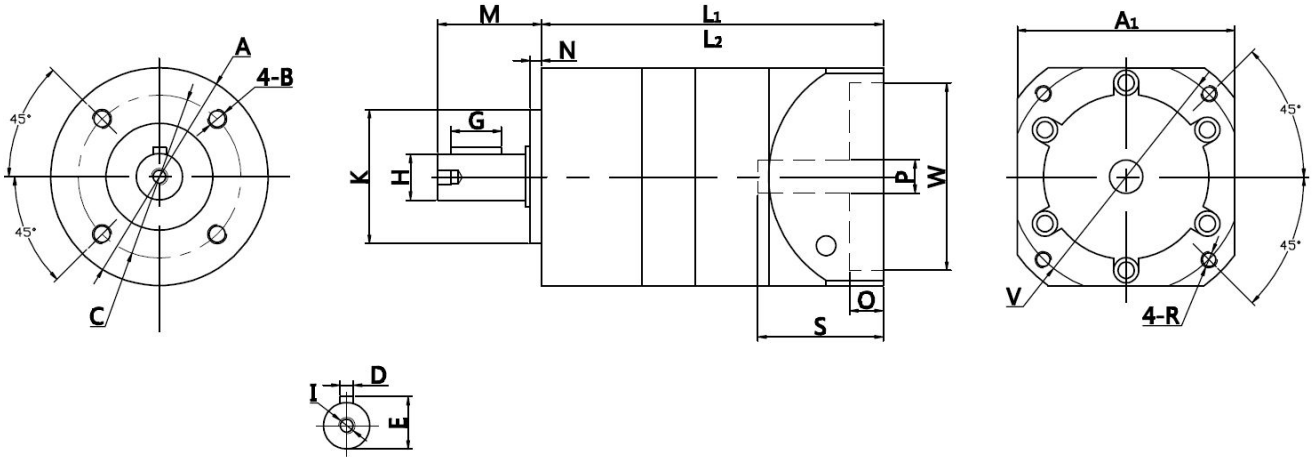
单位：mm

尺寸	TA-040	TA-060	TA-090	TA-120	TA-150	TA-180	TA-220
A	45	60	90	120	150	180	225
B	Φ3.4	Φ5.5	Φ6.6	Φ9	Φ11	Φ13.5	Φ17
C	Φ50	Φ70	Φ100	Φ130	Φ165	Φ215	Φ250
D	4	5	6	10	12	16	20
E	15	18	24.5	35	43	59	79.5
I	M4*10	M4*12	M8*19	M12*15	M16*36	M20*42	M20*42
H	Φ13	Φ16	Φ22	Φ32	Φ40	Φ160	Φ180
K	Φ35	Φ50	Φ80	Φ110	Φ130	Φ55	Φ75
G	14	25	32	40	63	32	90
N	5	7	10	12	15	20	30
M	24.5	37	48	65	97	105	138
Z	4	6	8	10	12	15	20
L1(单段)	88	80	95.5	121.5	142	281.5	350
L2（双段）	104.5	94	116	151.5	183	315.5	409.5



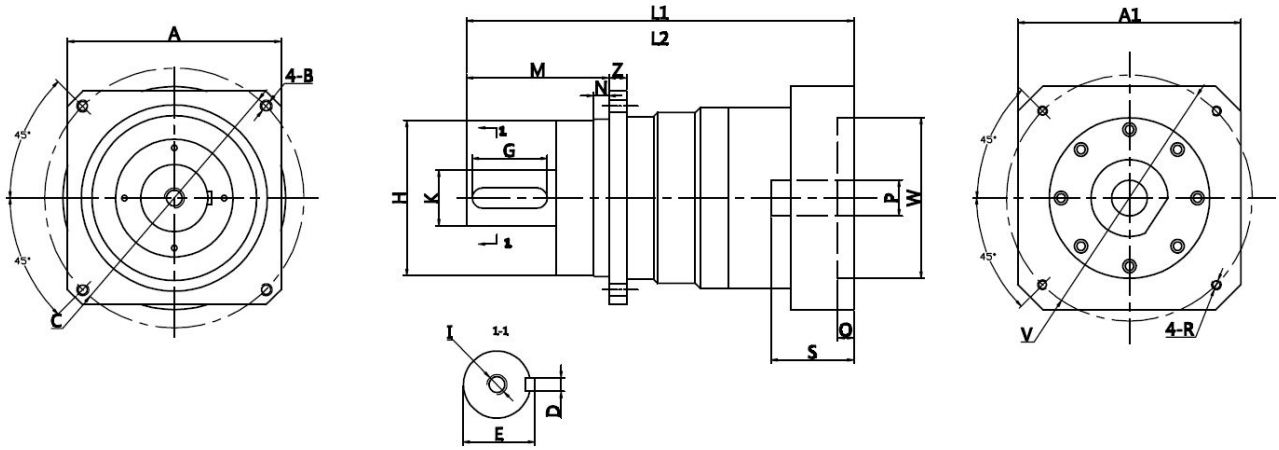
单位：mm

尺寸	TS060	TS090	TS120	TS150
A	61	90	120	150
B	Φ5	Φ7	Φ9	Φ11
C	Φ70	Φ105	Φ140	Φ165
D	4	6	8	12
E	15.7	20.6	28.3	46.4
G	15	25	30	65
I	M5*13	M6*15	M12*15	M16*30
H	Φ16	Φ22	Φ32	Φ40
K	Φ50	Φ80	Φ110	Φ130
M	28	45	56.5	82
N	7	10	12	15
Z	8	13	14	13
L1(单段)	85	105	170	163
L2(双段)	105	135	170	213



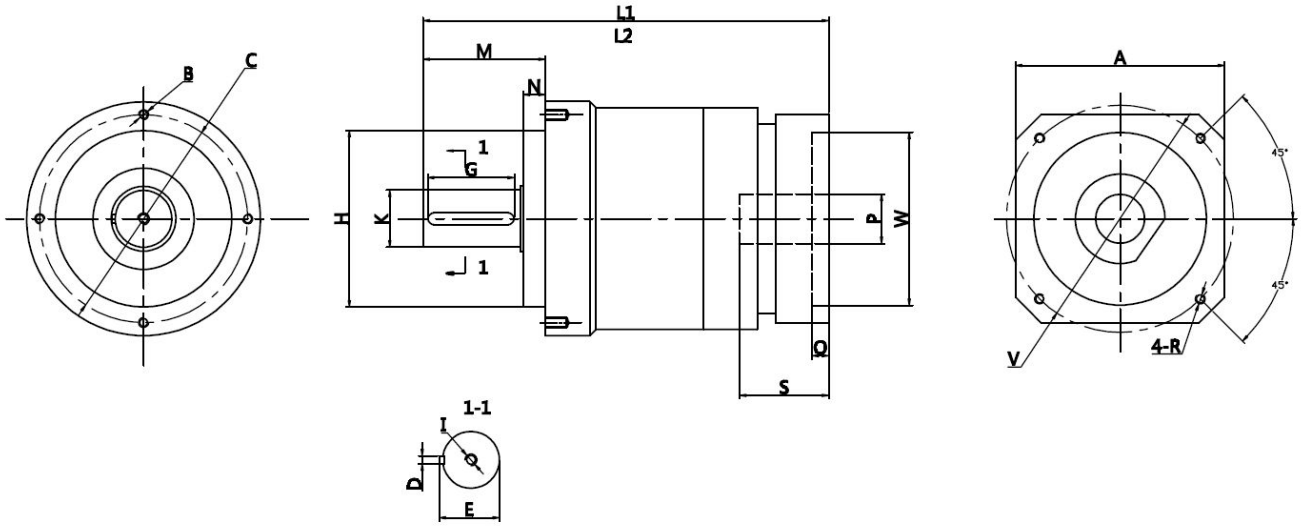
单位：mm

尺寸	TN060	TN090	TN120	TN150
A	Φ61	Φ90	Φ120	Φ150
B	M5*10	M6*12	M10*20	M10*20
C	Φ52	Φ70	Φ100	Φ140
D	4	6	8	12
E	15.7	22.6	28.3	43
G	15	25	30	50
I	M5*13	M6*20	M12*15	M16*20
H	Φ16	Φ22	Φ32	Φ40
K	Φ40	Φ60	Φ80	Φ120
M	28	43	56	82
N	7	10	12	15
L1(单段)	85	108.8	140	165
L2(双段)	105	154.3	173.5	218



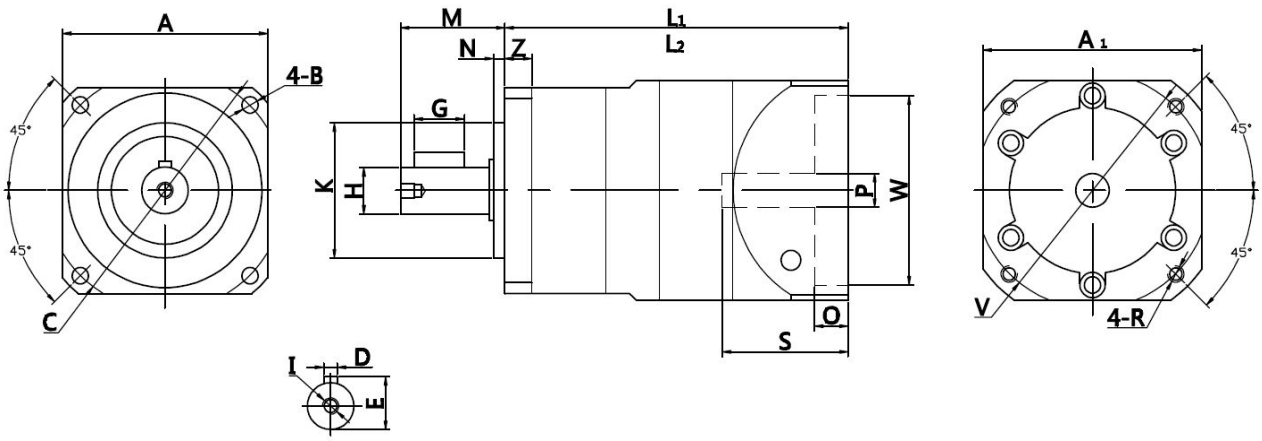
单位：mm

尺寸	TD-060	TD-075	TD-100	TD-140	TD-180	TD-210
A	60	75	100	140	182	215
B	Φ5.5	Φ6.6	Φ9	Φ11	Φ13.5	Φ17
C	Φ68	Φ85	Φ120	Φ165	Φ215	Φ250
D	5	6	10	12	16	20
E	18	24.5	35	43	59	79.5
I	M5*12	M8*18	M12*28	M16*35	M20*25	M20*42
H	Φ60	Φ70	Φ90	Φ130	Φ160	Φ180
K	Φ16	Φ22	Φ32	Φ40	Φ55	Φ75
G	22	28	40	70	70	90
N	5	6	8	10	12	15
Z	6	7	10	12	15	17
M	48	56	88	112	112	143
L1(单段)	143	173.5	227	282.5	322.5	400
L2（双段）	164.5	199	260	322	348.5	400



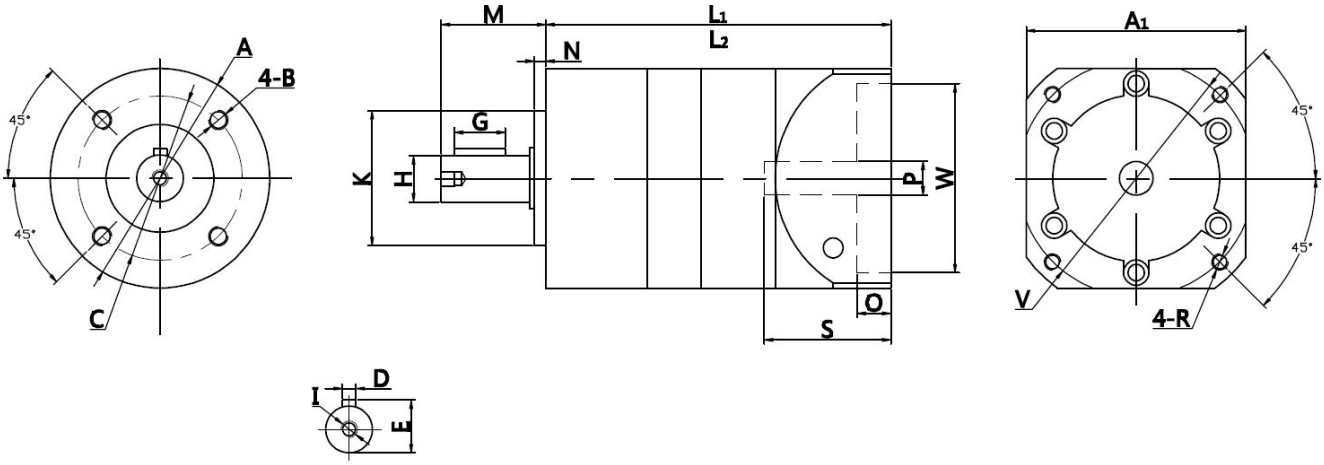
单位：mm

尺寸	TE-040	TE-060	TE-090	TE-120	TE-155	TE-205	TE-235
A	40	65	100	80	130	180	225
B	M4*8	M5*10	M6*12	M8*16	M10*20	M12*24	M16*28
C	Φ44	Φ62	Φ80	Φ108	Φ140	Φ184	Φ210
D	4	5	6	10	12	16	20
E	15	18	24.5	35	43	59	79.5
I	M4*10	M5*13	M8*19	M12*28	M16*36	M20*42	M20*42
H	Φ35	Φ52	Φ68	Φ90	Φ120	Φ160	Φ180
K	Φ12	Φ16	Φ22	Φ32	Φ40	Φ55	Φ75
G	14	25	32	40	65	70	90
N	5	6.5	8.5	17.5	12	12	18
M	24.5	36	46	70	97	100	126
L1(单段)	86	119.5	155	189	246.5	281.5	350
L2(双段)	102.5	141.5	177.5	224.5	296	315.5	409.5



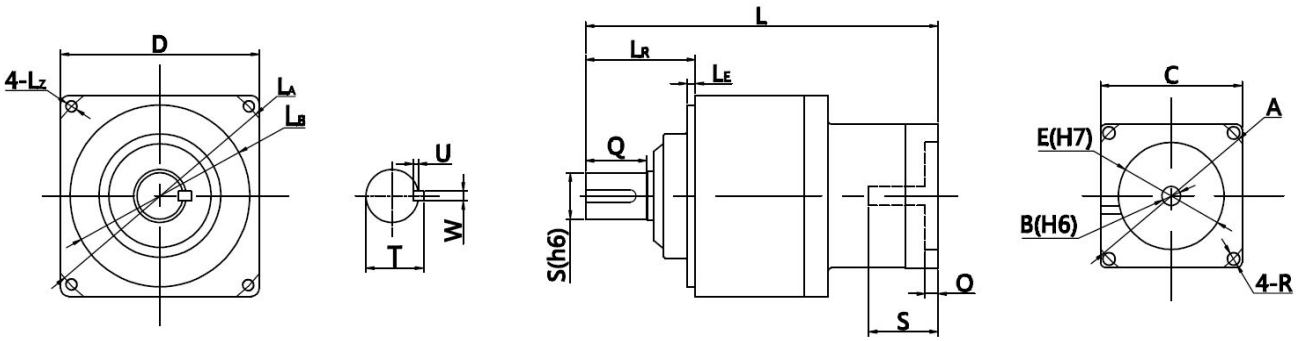
单位：mm

尺寸	TS-040	TS-060	TS-090	TS-120	TS-150
A	45	61	90	120	150
B	Φ3.4	Φ5	Φ7	Φ9	Φ11
C	Φ48	Φ70	Φ105	Φ140	Φ165
D	4	4	6	8	12
E	13.5	15.7	20.6	28.3	46.4
G	14	15	25	30	65
I	M4*10	M5*15	M6*15	M12*20	M16*30
H	Φ35	Φ14	Φ20	Φ25	Φ40
K	Φ12	Φ50	Φ80	Φ110	Φ130
M	22.5	28	45	56.5	82
N	3	3	5	15	5
Z	4	8	13	14	13
L1(单段)	88	85	105	170	163
L2(双段)	104.5	105	135	170	213



单位：mm

尺寸	TN-042	TN-060	TN-090	TN-120
A	Φ50	Φ61	Φ90	Φ120
B	M4*8	M5*10	M6*12	M10*20
C	Φ34	Φ52	Φ70	Φ100
D	4	4	6	8
E	13	15.7	22.6	28.3
G	14	15	25	30
I	M4*10	M5*12	M6*20	M12*15
H	Φ26	Φ14	Φ20	Φ25
K	Φ12	Φ40	Φ60	Φ80
M	21.5	28	43	56
N	2	3	3	4
L1(单段)	88	85	108.8	140
L2(双段)	104.5	105	154.3	173.5



单位：mm

尺寸		TMX-060-200W	TMX-090-400W	TMX-090-750W	TMX-100-750W	TMX-100-KW	TMX-125-2KW
D		52	78	78	96	96	125
LA		Φ60	Φ90	Φ90	Φ115	Φ115	Φ135
LB		Φ50	Φ70	Φ70	Φ90	Φ90	Φ110
Lz		M5*15	M6*20	M6*20	M8*25	M8*25	M10*30
U		3	3	3	3	3	5
W		4	6	6	8	8	10
T		15	21	21	27	27	35
S		Φ12	Φ19	Φ19	Φ24	Φ24	Φ32
Q		20	30	30	40	40	55
LR		33	50	50	64	64	75
LE		3	3	3	6	6	5
L	3~9	104	140	144	168	177	215.5
	15~100	150	150	171	215	215	235
A		Φ70	Φ70	Φ90	Φ90	Φ145	Φ145
B		Φ11	Φ19	Φ19	Φ19	Φ22	Φ22
C		60	60	80	80	130	130
E		Φ50	Φ70	Φ70	Φ70	Φ110	Φ110
R		M4	M4	M6	M6	M8	M8
O		4	4	4	5	7	8

标准直齿系列

型号：
TMK

经济合理、灵活应用、高刚性、高效率、低噪音
Economic、multi-applications、high efficiency、low noise

第二章

特征 2-002

性能一览表 2-002

尺寸一览表 2-002

- 行星齿轮在轴上由满滚针轴承两端支撑，增强了扭转刚度
- 输出轴两端由高精度低游隙的轴承支撑，以实现更大的承载能力
- 回程间隙≤8弧分
- 从3到100的标准减速比
- 方形法兰输出，快速实现与任何电机输出轴的连接（自定位输入法兰）
- 标准温度为-15℃~45℃，如果您的需求超出此范围，请与我们联系
- 防护等级为IP65
- 终身免维护
- Satellite gears are double-supported on hardened and ground shafts with full-complement needle bearings increasing torsional stiffness.
- Two-stage-gearbox output shaft is supported by 2 high precision bearings granting a superior radial and axial load acceptance.
- Backlash ≤ 8 arcmin.
- Ratios from 3 to 100, custom ratios on demand.
- Very fast mounting process with any servo shaft. Square output flange.
- Standard operating temperature range is -15℃ to 45℃. Available solution on demand for other temperature range.
- Protection rated IP 65 standard.
- Life lubrication.

TMK-060

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	16	16	16	16	16	16	15	15	16	16	16	16	16	15
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤8								≤15					
C_{2t}	Nm/arcmin	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
F_{2RMax}	N	950													
F_{2AMax}	N	750													
J_1	$kgcm^2$	0.135	0.093	0.078	0.078	0.075	0.075	0.065	0.063	0.065	0.075	0.075	0.076	0.075	0.075
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TMK-090

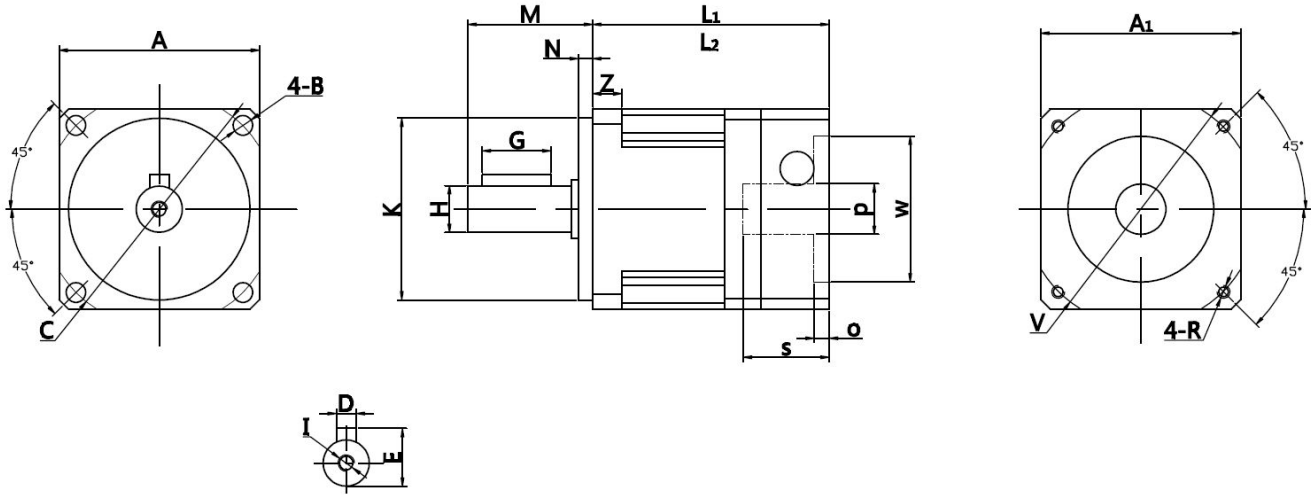
Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	40	40	40	40	40	40	35	35	40	40	40	40	40	35
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤8								≤15					
C_{2t}	Nm/arcmin	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
F_{2RMax}	N	1200													
F_{2AMax}	N	1600													
J_1	$kgcm^2$	0.77	0.52	0.45	0.45	0.39	0.39	0.45	0.74	0.71	0.44	0.44	0.51	0.50	0.44
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TMK-120

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	100	100	100	100	90	100	100	100	100	100	100	100	100	90
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600
n_{1Max}	rpm	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
j_t	arcmin	≤ 8								≤ 15					
C_{2t}	Nm/arcmin	13	13	13	13	13	13	13	13	13	13	13	13	13	13
F_{2RMax}	N	1550													
F_{2AMax}	N	2100													
J_1	$kgcm^2$	2.63	1.79	1.53	1.53	1.32	1.32	1.32	2.62	1.75	1.50	1.49	1.53	1.50	1.49
η	%	≥ 95								≥ 90					
L_h	h	> 20000													
T	℃	−15 ~ 45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TMK-150

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	390	390	390	390	390	390	310	310	390	390	390	390	390	310
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
n_{1Max}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
j_t	arcmin	≤ 8								≤ 15					
C_{2t}	Nm/arcmin	41	41	41	41	41	41	41	41	41	41	41	41	41	41
F_{2RMax}	N	6520													
F_{2AMax}	N	4000													
J_1	$kgcm^2$	12.14	7.78	6.07	6.07	4.63	4.63	6.12	12.37	12.35	6.65	5.81	6.07	6.65	5.81
η	%	≥ 95								≥ 90					
L_h	h	> 20000													
T	℃	−15 ~ 45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													



单位：mm

尺寸	TMK-060	TMK-090	TMK-120	TMK-150
A	60	90	120	150
B	5.5	6.5	8.5	10.5
C	Φ70	Φ100	Φ130	Φ165
D	5	6	10	12
E	18	24.5	35	43
I	M5*10	M8*15	M12*20	M16*30
H	Φ16	Φ22	Φ32	Φ40
K	Φ50	Φ80	Φ110	Φ130
G	25	32	40	60
N	7	10	8	8
M	37	48	62	93
Z	6	8	12	18
L1(单段)	82	101	122	159
L2(双段)	110	141	170	220

转角系列

Planetary stage

型号：

TMKR TAR TNR

高性能、用途广、高刚性、高效率、低噪音、低背隙

Excellent performances、broad-spectrum、high torsional stiffness、high efficiency、low noise、low backlash.

第三章

特征 3-002

性能一览表 3-002

尺寸一览表 3-002

- 行星齿轮在轴上由满滚针轴承两端支撑，增强了扭转刚度
- 输出轴两端由高精度低游隙的轴承支撑，以实现更大的承载能力
- 回程间隙≤8弧分
- 从3到100的标准减速比
- 方形法兰输出，快速实现与任何电机输出轴的连接（自定位输入法兰）
- 标准温度为-15℃~45℃，如果您的需求超出此范围，请与我们联系
- 防护等级为IP65
- 终身免维护
- Satellite gears are double-supported on hardened and ground shafts with full-complement needle bearings increasing torsional stiffness.
- Two-stage-gearbox output shaft is supported by 2 high precision bearings granting a superior radial and axial load acceptance.
- Backlash ≤ 8 arcmin.
- Ratios from 3 to 100, custom ratios on demand.
- Very fast mounting process with any servo shaft. Square output flange.
- Standard operating temperature range is -15°C to 45°C. Available solution on demand for other temperature range.
- Protection rated IP 65 standard.
- Life lubrication.

TMKR-060

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	16	16	16	16	16	16	15	15	16	16	16	16	16	15
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤8								≤15					
C_{2t}	Nm/arcmin	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
F_{2RMax}	N	950													
F_{2AMax}	N	750													
J_1	$kgcm^2$	0.135	0.093	0.078	0.078	0.075	0.075	0.065	0.063	0.065	0.075	0.075	0.076	0.075	0.075
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TMKR-090

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	40	40	40	40	40	40	35	35	40	40	40	40	40	35
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤8								≤15					
C_{2t}	Nm/arcmin	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
F_{2RMax}	N	1200													
F_{2AMax}	N	1600													
J_1	$kgcm^2$	0.77	0.52	0.45	0.45	0.39	0.39	0.45	0.74	0.71	0.44	0.44	0.51	0.50	0.44
η	%	≥95								≥90					
L_h	h	>20000													
T	℃	−15～45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TMKR-120

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	100	100	100	100	90	100	100	100	100	100	100	100	100	90
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600
n_{1Max}	rpm	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
j_t	arcmin	≤ 8								≤ 15					
C_{2t}	Nm/arcmin	13	13	13	13	13	13	13	13	13	13	13	13	13	13
F_{2RMax}	N	1550													
F_{2AMax}	N	2100													
J_1	$kgcm^2$	2.63	1.79	1.53	1.53	1.32	1.32	1.32	2.62	1.75	1.50	1.49	1.53	1.50	1.49
η	%	≥ 95								≥ 90					
L_h	h	> 20000													
T	℃	−15 ~ 45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TMKR-150

Symb.	Unit	1 Stage								2 Stages					
i		3	4	5	6	7	8	9	10	15	20	25	50	80	100
T_{2N}	Nm	390	390	390	390	390	390	310	310	390	390	390	390	390	310
T_{2Not}	Nm	2.5 X T_{2N}													
n_{1N}	rpm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
n_{1Max}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
j_t	arcmin	≤ 8								≤ 15					
C_{2t}	Nm/arcmin	41	41	41	41	41	41	41	41	41	41	41	41	41	41
F_{2RMax}	N	6520													
F_{2AMax}	N	4000													
J_1	$kgcm^2$	12.14	7.78	6.07	6.07	4.63	4.63	6.12	12.37	12.35	6.65	5.81	6.07	6.65	5.81
η	%	≥ 95								≥ 90					
L_h	h	> 20000													
T	℃	−15 ~ 45													
L		Life Lubrication / 终身润滑													
PC		IP65													
MP		Any / 任何方向													

TSR/TNR-060

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	55	50	60	60	50	55	45	40	55	50	50	45	60	55	40
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
n_{1Max}	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
j_t	arcmin	≤8														
C_{2t}	Nm/arcmin	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
F_{2RMax}	N	1530														
F_{2AMax}	N	630														
J_1	$kgcm^2$	0.16	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
η	%	≥90														
L_h	h	>20000														
T	℃	–15 ~ 45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TSR/TNR-090

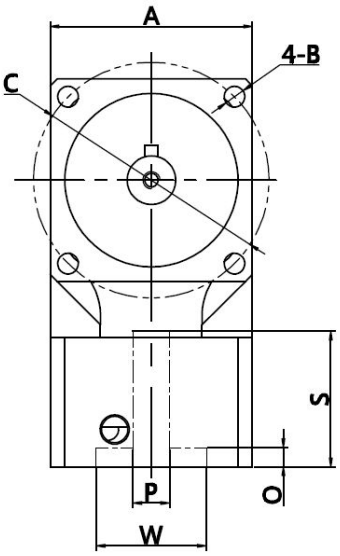
Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	130	140	160	160	140	150	110	100	130	140	140	120	160	140	100
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
j_t	arcmin	≤8														
C_{2t}	Nm/arcmin	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
F_{2RMax}	N	3250														
F_{2AMax}	N	1300														
J_1	$kgcm^2$	0.61	0.48	0.47	0.47	0.45	0.45	0.42	0.40	0.45	0.45	0.45	0.45	0.40	0.40	0.40
η	%	≥90														
L_h	h	>20000														
T	℃	–15 ~ 45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

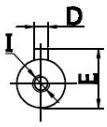
TSR/TNR-120

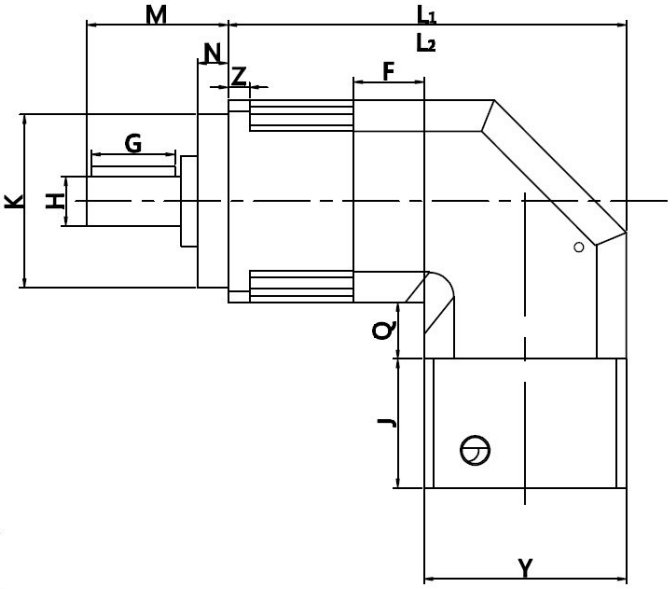
Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	208	290	330	330	300	280	260	230	208	290	300	260	330	280	230
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
j_t	arcmin	≤8														
C_{2t}	Nm/arcmin	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
F_{2RMax}	N	6700														
F_{2AMax}	N	3000														
J_1	$kgcm^2$	3.25	2.74	2.71	2.71	2.62	2.60	2.59	2.57	0.45	0.45	0.45	0.45	0.40	0.40	0.40
η	%	≥90														
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

TSR/TNR-150

Symb.	Unit	1 Stage								2 Stages						
i		3	4	5	6	7	8	9	10	15	20	35	40	50	80	100
T_{2N}	Nm	342	542	650	650	550	520	470	450	342	542	550	500	650	520	450
T_{2Not}	Nm	2.5 X T_{2N}														
n_{1N}	rpm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤8														
C_{2t}	Nm/arcmin	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
F_{2RMax}	N	9400														
F_{2AMax}	N	4700														
J_1	$kgcm^2$	9.21	7.54	7.42	7.42	7.14	7.14	7.08	7.03	2.63	2.63	2.43	2.43	2.39	2.39	2.39
η	%	≥90														
L_h	h	>20000														
T	℃	−15～45														
L		Life Lubrication / 终身润滑														
PC		IP65														
MP		Any / 任何方向														

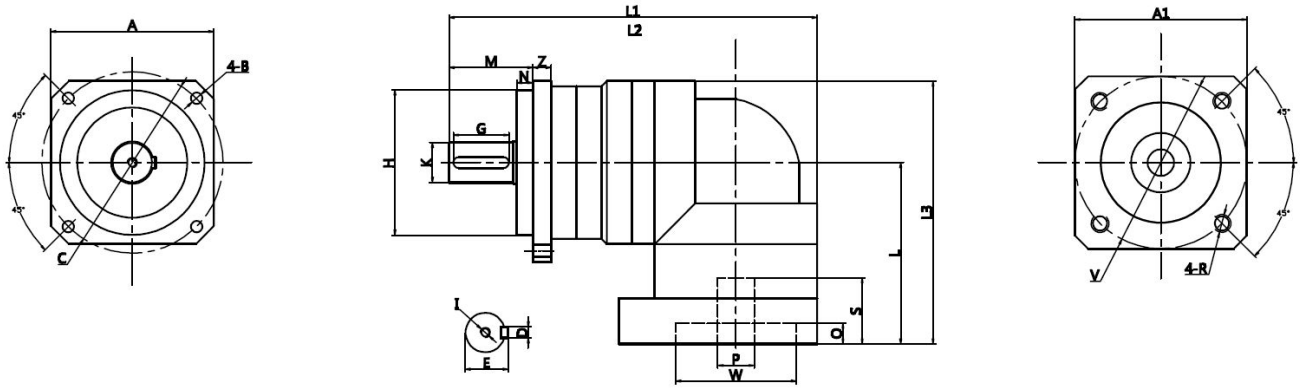






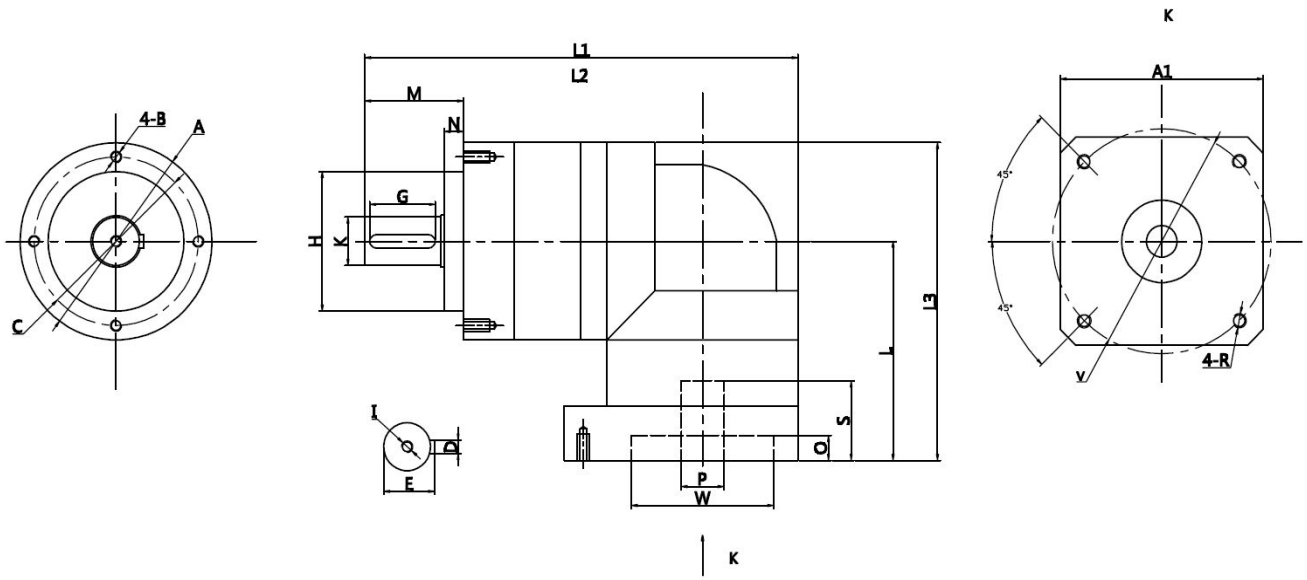
单位：mm

尺寸	TMKR-060	TMKR-090	TMKR-120	TMKR-150
A	60	90	120	150
B	Φ5.5	Φ6.5	Φ8.5	Φ0.5
C	Φ70	Φ100.	Φ130	Φ165
D	5	6	10	12
E	18	24.5	35	44.2
I	M5*15	M8*20	M12*25	M16*30
H	Φ16	Φ22	Φ32	Φ40
K	Φ50	Φ80	Φ110	Φ130
G	25.5	30.5	40.5	60.5
N	7	10	8	8
M	37	48	63	85
Z	6	8	12	18
L1（单段）	101.8	166	173	257
L2双段）	139.8	206	221	318
F	15.8	30		
Q	14.8	30	7.5	24



单位：mm

尺寸	TAR-060	TAR-090	TAR-120	TAR-150
A	60	90	115	140
B	4-Φ5.5	4-Φ6.6	4-Φ9	4-Φ11
C	Φ70	Φ100	Φ130	Φ165
D	5	6	8	12
E	18	24.5	35	43
I	M5*12	M8*20	M10*20	M16*36
H	Φ50	Φ80	Φ110	Φ113
K	Φ16	Φ22	Φ32	Φ40
G	25	27	40	65
Z	6	10	10	12
N	7	9	12	12
M	37	46.2	51	82
L1(单段)	158	203	261.5	357.5
L2（双段）	178	232.5	295	411

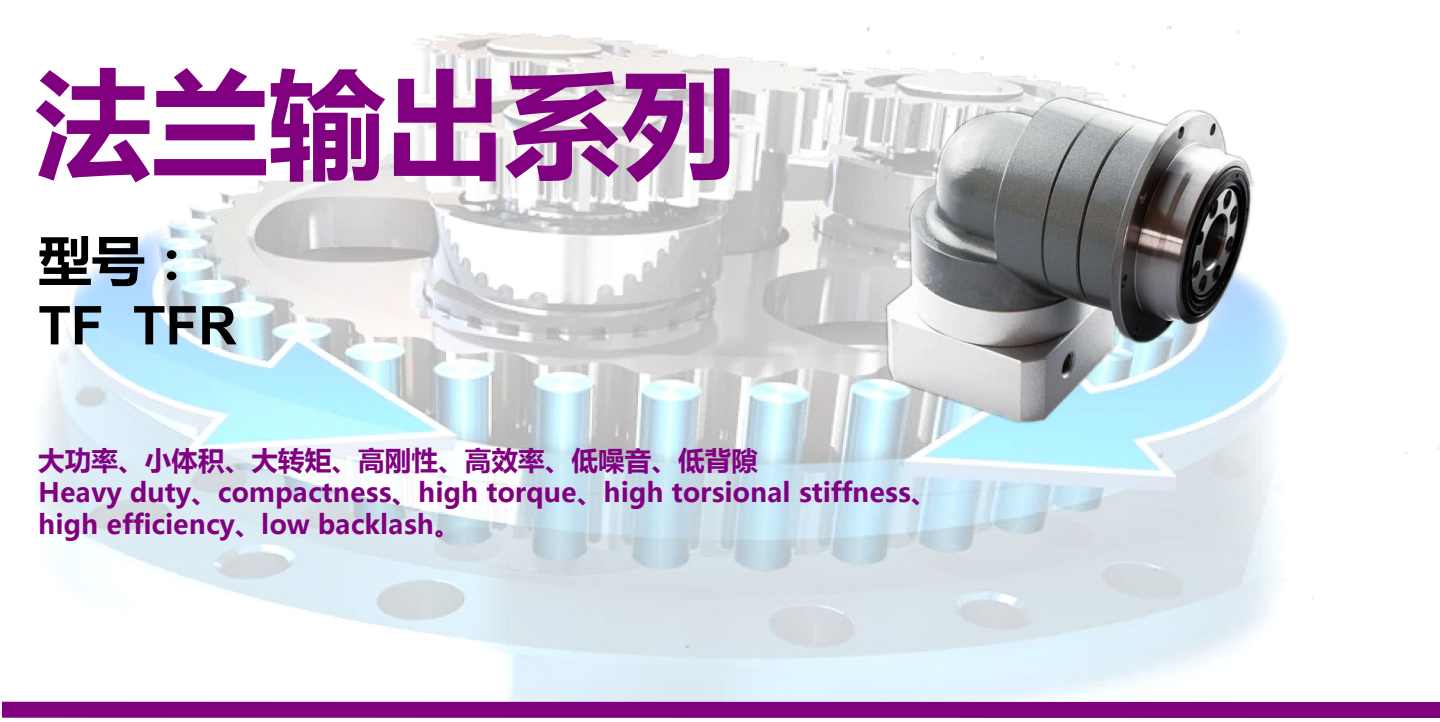


单位：mm

尺寸	TNR-060	TNR-090	TNR-120	TNR-150
A	Φ70	Φ90	Φ120	Φ155
B	4-M5*10	4-M6*12	4-M8*16	4-M10*20
C	Φ62	Φ80	Φ108	Φ140
D	5	6	8	12
E	18	24.5	35	43
I	M5*12	M8*20	M10*20	M6*36
H	Φ52	Φ68	Φ90	Φ120
K	Φ16	Φ22	Φ32	Φ40
G	25	32	40	65
N	6.5	8.5	17.5	12
M	36	46	70	97
L1(单段)	157.5	203	261.5	357.5
L2(双段)	157.5	232.5	295	411

法兰输出系列

型号：
TF TFR



大功率、小体积、大转矩、高刚性、高效率、低噪音、低背隙
Heavy duty、compactness、high torque、high torsional stiffness、high efficiency、low backlash。

第四章

特征 4-002

性能一览表 4-002

尺寸一览表 4-002

- 旋转输出法兰替代传统的输出轴，赋予了其独特的功率传递解决方案
- 行星齿轮在轴上由满滚针轴承两端支撑，增强了扭转刚度
- 输出轴由2只圆锥滚子轴承支撑，以实现更大的承载能力
- 回程间隙≤3弧分
- 从4到100的标准减速比
- 快速实现与任何电机输出轴的连接（自定位输入法兰）
- 标准温度为-15℃~45℃，如果您的需求超出此范围，请与我们联系
- 额定防护等级为IP65
- 终身免维护

- Rotating output flange instead of traditional output shaft permits optimum power transmission solutions.
- Satellite gears are double-supported on hardened and ground shafts with full-complement needle bearings increasing torsional stiffness.
- Two-stage-gearbox output shaft is supported by 2 tapered roller bearings granting a maximal radial and axial load acceptance.
- Backlash ≤ 3 arcmin.
- Ratios from 4 to 100, custom ratios on demand.
- Very fast mounting process with any servo shaft.
- Standard operating temperature range is -15°C to 45°C. Available solution on demand for other temperature range.
- Protection rated IP 65 standard.
- Life lubrication.

- 行星齿轮在轴上由满滚针轴承两端支撑，增强了扭转刚度
- 输出轴两端由高精度低游隙的轴承支撑，以实现更大的承载能力
- 回程间隙≤8弧分
- 从3到100的标准减速比
- 方形法兰输出，快速实现与任何电机输出轴的连接（自定位输入法兰）
- 标准温度为-15℃~45℃，如果您的需求超出此范围，请与我们联系
- 防护等级为IP65
- 终身免维护
- Satellite gears are double-supported on hardened and ground shafts with full-complement needle bearings increasing torsional stiffness.
- Two-stage-gearbox output shaft is supported by 2 high precision bearings granting a superior radial and axial load acceptance.
- Backlash ≤ 8 arcmin.
- Ratios from 3 to 100, custom ratios on demand.
- Very fast mounting process with any servo shaft. Square output flange.
- Standard operating temperature range is -15°C to 45°C. Available solution on demand for other temperature range.
- Protection rated IP 65 standard.
- Life lubrication.

TF-064

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	28	28	28	28	25	21	18	40	40	40	40	18
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	3300	3300	4000	4000	4000	4000	4000	4000	4000	4800	5500	5500
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3							≤5				
C_{2t}	Nm/arcmin	13	13	13	13	13	13	13	13	13	13	13	13
F_{2RMax}	N	680											
F_{2AMax}	N	340											
J_1	$kgcm^2$	0.13	0.13	0.13	0.13	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
η	%	≥95							≥90				
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

TF-090

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	75	75	75	75	75	75	60	90	90	90	90	60
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	2600	2900	3100	3100	3500	3500	3500	3500	3500	3800	4500	4500
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3							≤5				
C_{2t}	Nm/arcmin	31	31	31	31	31	31	31	31	31	31	31	31
F_{2RMax}	N	1750											
F_{2AMax}	N	875											
J_1	$kgcm^2$	0.51	0.47	0.47	0.45	0.45	0.44	0.44	0.13	0.13	0.13	0.44	0.13
η	%	≥95							≥90				
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

TF-100

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	170	170	170	120	150	142	120	210	200	220	200	120
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	2300	2500	2500	2500	2800	2800	2800	2800	2800	3100	3500	4200
n_{1Max}	rpm	4500	4500	4500	4500	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤3							≤5				
C_{2t}	Nm/arcmin	82	82	82	82	82	82	82	82	82	82	82	82
F_{2RMax}	N	3100											
F_{2AMax}	N	1250											
J_1	$kgcm^2$	2.87	2.71	2.71	2.62	2.61	2.58	2.57	0.47	0.47	0.44	0.44	0.44
η	%	≥95							≥90				
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

TF-140

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	370	370	370	370	345	300	240	400	400	400	400	240
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	2000	2000	2500	2500	2900	2900	2900	2900	2900	2900	3200	3900
n_{1Max}	rpm	4000	4000	4000	4000	5000	5000	5000	5000	5000	5000	5000	5000
j_t	arcmin	≤3							≤5				
C_{2t}	Nm/arcmin	151	151	151	151	151	151	151	151	151	151	151	151
F_{2RMax}	N	5650											
F_{2AMax}	N	2275											
J_1	$kgcm^2$	7.54	7.42	7.42	7.14	7.13	7.08	7.03	2.71	2.71	2.57	2.57	2.57
η	%	≥95							≥90				
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

TF-200

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	1020	1020	1020	880	800	750	685	1020	1020	1020	880	685
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	2000	2000	2000	2000	3000	3000	3000	3000	3000	3000	3000	3000
n_{1Max}	rpm	3000	3000	3000	3000	4000	4000	4000	4000	4000	4000	4000	4000
j_t	arcmin	≤3							≤5				
C_{2t}	Nm/arcmin	450	450	450	450	450	450	450	450	450	450	450	450
F_{2RMax}	N	6200											
F_{2AMax}	N	3100											
J_1	$kgcm^2$	23.4	23.4	23.4	23.4	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8
η	%	≥95							≥90				
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

TF-255

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	1980	1980	1980	1870	1825	1780	1779	1980	1980	1980	1870	1779
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
n_{1Max}	rpm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
j_t	arcmin	≤3							≤5				
C_{2t}	Nm/arcmin	1023	1023	1023	1023	1023	1023	1023	1023	1023	1023	1023	1023
F_{2RMax}	N	10610											
F_{2AMax}	N	8800											
J_1	$kgcm^2$	64.3	64.3	64.3	64.3	64.3	64.3	23.4	23.4	23.4	23.4	23.4	23.4
η	%	≥95							≥90				
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

TFR-064

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	28	28	28	28	25	21	18	40	40	40	40	18
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	3300	3300	4000	4000	4000	4000	4000	4000	4000	4800	5500	5500
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤8											
C_{2t}	Nm/arcmin	13	13	13	13	13	13	13	13	13	13	13	13
F_{2RMax}	N	680											
F_{2AMax}	N	340											
J_1	$kgcm^2$	0.13	0.13	0.13	0.13	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
η	%	≥90											
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

TFR-090

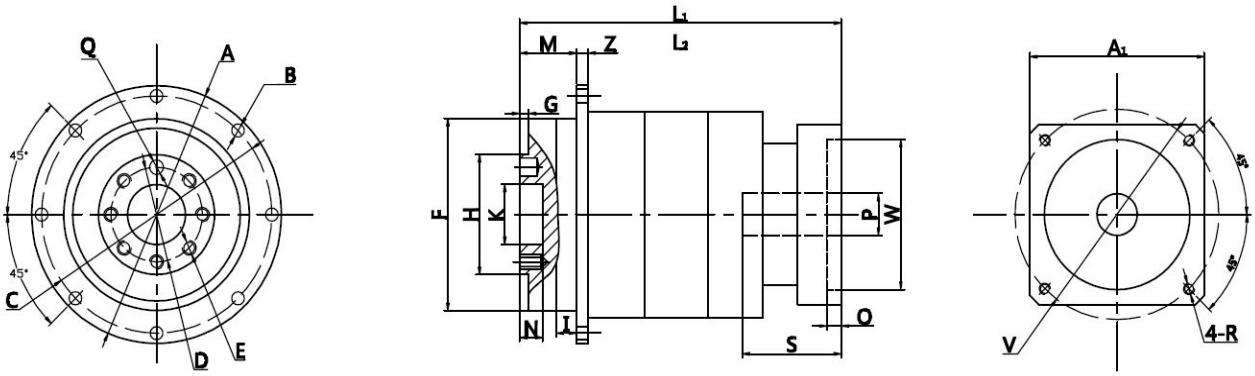
Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	75	75	75	75	75	75	60	90	90	90	90	60
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	2600	2900	3100	3100	3500	3500	3500	3500	3500	3800	4500	4500
n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤8											
C_{2t}	Nm/arcmin	31	31	31	31	31	31	31	31	31	31	31	31
F_{2RMax}	N	1750											
F_{2AMax}	N	875											
J_1	$kgcm^2$	0.51	0.47	0.47	0.45	0.45	0.44	0.44	0.13	0.13	0.13	0.44	0.13
η	%	≥90											
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

TFR-110

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	170	170	170	120	150	142	120	210	200	220	200	120
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	2300	2500	2500	2500	2800	2800	2800	2800	2800	3100	3500	4200
n_{1Max}	rpm	4500	4500	4500	4500	6000	6000	6000	6000	6000	6000	6000	6000
j_t	arcmin	≤8											
C_{2t}	Nm/arcmin	82	82	82	82	82	82	82	82	82	82	82	82
F_{2RMax}	N	3100											
F_{2AMax}	N	1250											
J_1	$kgcm^2$	2.87	2.71	2.71	2.62	2.61	2.58	2.57	0.47	0.47	0.44	0.44	0.44
η	%	≥90											
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											

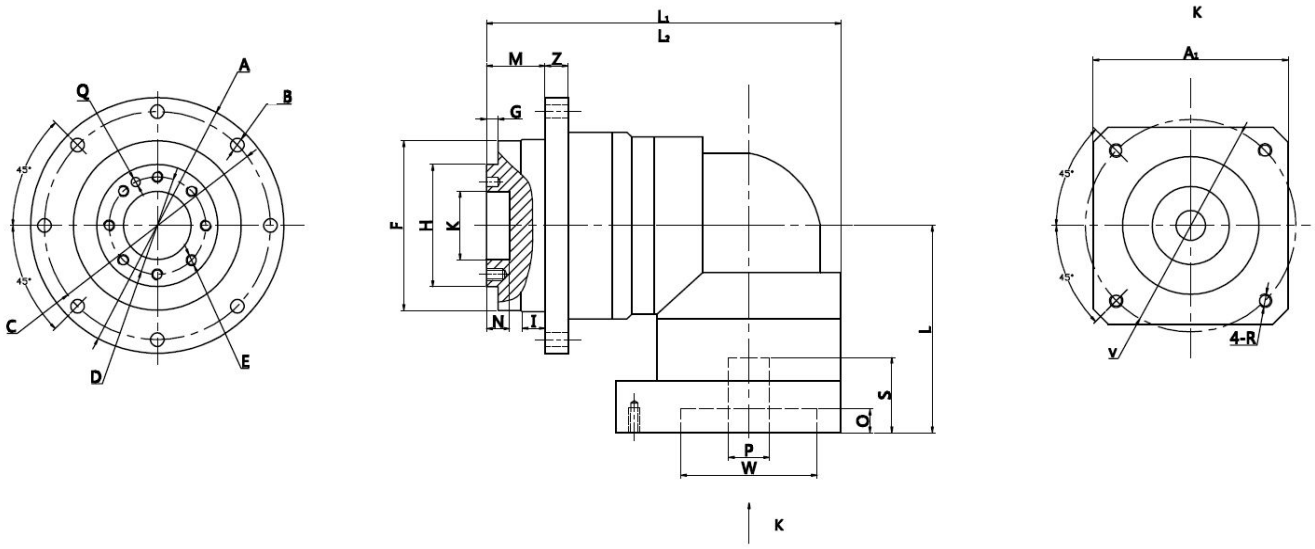
TFR-140

Symb.	Unit	1 Stage							2 Stages				
i		4	5	6	7	8	9	10	20	25	50	80	100
T_{2N}	Nm	370	370	370	370	345	300	240	400	400	400	400	240
T_{2Not}	Nm	2.5 X T_{2N}											
n_{1N}	rpm	2000	2000	2500	2500	2900	2900	2900	2900	2900	2900	3200	3900
n_{1Max}	rpm	4000	4000	4000	4000	5000	5000	5000	5000	5000	5000	5000	5000
j_t	arcmin	≤8											
C_{2t}	Nm/arcmin	151	151	151	151	151	151	151	151	151	151	151	151
F_{2RMax}	N	5650											
F_{2AMax}	N	2275											
J_1	$kgcm^2$	7.54	7.42	7.42	7.14	7.13	7.08	7.03	2.71	2.71	2.57	2.57	2.57
η	%	≥90											
L_h	h	>20000											
T	℃	−15～45											
L		Life Lubrication / 终身润滑											
PC		IP65											
MP		Any / 任何方向											



单位：mm

尺寸	TF-064	TF-090	TF-110	TF140	TF-200	TF-255
A	Φ86	Φ118	Φ145	Φ179	Φ247	Φ300
B	8-Φ4.5	8-Φ5.5	8-Φ5.5	12-Φ6.6	12-Φ9	16-Φ13.5
C	Φ79	Φ109	Φ135	Φ168	Φ233	Φ280
D	Φ31.5	Φ50	Φ63	Φ80	Φ125	Φ140
E	7-M5*8	8-M6*12	11-M6*12	11-M8*17	12-M10*20	12-M16*25
I	7	10	10	14.5	15	20
K	Φ20	Φ31.5	Φ40	Φ50	Φ80	Φ100
H	Φ40	Φ63	Φ80	Φ100	Φ160	Φ180
F	Φ64	Φ90	Φ110	Φ140	Φ200	Φ255
G	3	6	6	6	8	12
N	8	12	13	12	16	20
Z	4	7	8	10	12	18
M	19.5	25	29	38	50	66
Q	Φ5*6	Φ6*7	Φ6*7	Φ8*7	Φ10*10	Φ12*10
L1(单段)	80.5	97	142	159	240.5	262.5
L2（双段）	103	123	150	195.5	292.5	306.5



单位：mm

尺寸	TFR-064	TFR-090	TFR-110	TFR-140
A	Φ86	Φ118	Φ145	Φ179
B	8-Φ4.5	6-Φ5.5	8-Φ5.5	12-Φ6.6
C	Φ79	Φ109	Φ135	Φ168
D	Φ31.5	Φ50	Φ63	Φ80
E	7-M5*8	8-M5*12	11-M6*12	11-M8*17
I	7	10	11	15
F	Φ64	Φ90	Φ110	Φ140
H	Φ40	Φ63	Φ80	Φ100
K	Φ20	Φ31.5	Φ40	Φ50
G	3	6	6	6
Z	4	7	8	10
N	8	12	13	12
M	19.5	25	29	38
Q	Φ5*8	Φ6*7	Φ6*7	Φ8*7
L1(单段)	125.5	172	220	255.5
L2（双段）	149	187	253.5	300

TMOX CO.,LTD.

WEBSITE:WWW.TMOX.COM.CN

托玛斯行星减速机

TMOX CO.,LTD 20141230 Printed in China