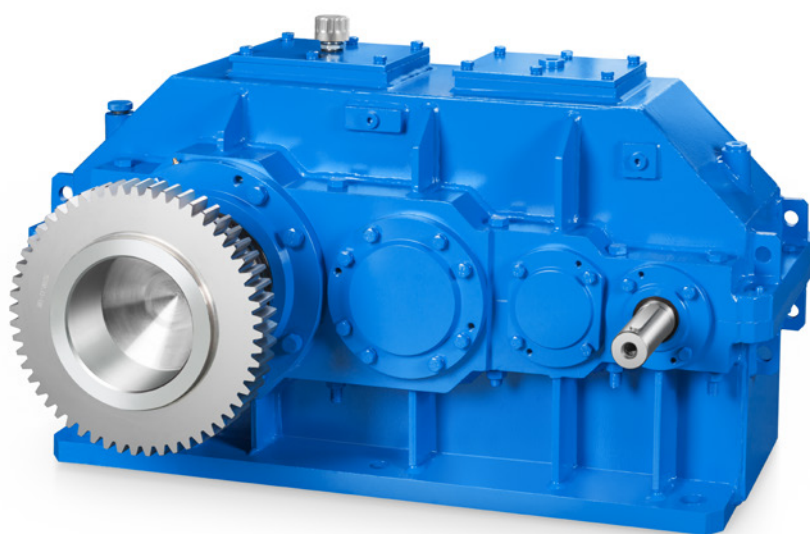


DONLY TRANSMISSION



东力齿轮箱

起重机专用减速器

GEAR UNITS FOR CRANE

型号 Type QY

版本 Edition 2021

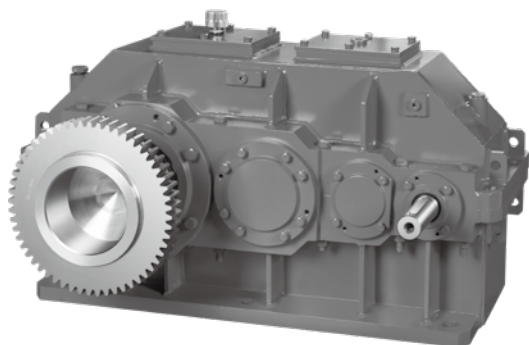
DONLY

驱 动 无 限 可 能

QY

起重机专用减速器

Gear Units For Crane



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产品说明

1.1 概述

起重机专用减速器包括 QYD 型和 QYS 型（三支点）两个系列，此减速器主要用于起重机的各有关机构，也可用于运输、冶金、矿山、化工及轻工等机械设备的传动机构，用途十分广泛，其具有如下特点：

- 承载能力高，齿轮采用渗碳、淬火、磨齿加工、承载能力比调质滚齿的软齿面和中硬齿面齿轮减速器有大幅度提高。
- 体积小、重量轻，与软齿面和中硬齿面齿轮减速器相比，相同承载能力减速器可降低 2 ~ 4 个相当机座号。
- 效率高、噪音低、振动小，采用磨齿加工提高了精度等级，齿轮又进行了修缘，每级齿轮的综合效率为 0.98，振动和噪音显著降低。
- 采用多级数，减少单级速比，可拉开中心距，降低减速器整机高度，满足起重机各机构的要求，减速器的最大公称传动比达到 400，满足了慢速起重机的要求。
- 本系列的减速器有三四级结合型（即三级的装配形式，四级的传动比）为慢速起重机的通用化提供了前提。
- 三支点减速器，可立式、卧式、甚至偏转一定角度安装，方便灵活。

1.2 使用条件

- 齿轮圆周速度不大于 20m/s；
- 高速轴转速不大于 1500r/min；
- 工作环境温度为 -40℃ ~ +45℃；
- 可正反两向运转

Product Description

1.1 General notes

Gear units for crane includes QYD (foot-mounted) and QYS (three-point mounted) gear units. The gear units are widely applied in the crane, transportation, metallurgy, mining, chemical and light industries. They have many features as following:

- High load capacity. The gear is made by carburizing, quenching and grinding. The load capacity is higher than soft-tooth surface gear units and medium harden tooth surface gear units with quenching and tempering.
- The gear units features small value, light weight, compared with soft-tooth surface gear units and medium harden tooth surface gear units. The load capacity can reduce the frame size by 2-4.
- High efficiency, small noise, small vibration. The gear quality can be improved by grinding. The gear is modified and comprehensive efficiency of the each stage gear is 0.98 which reduce the vibration and noise.
- Use the multi-stage to expand the center distance and reduce the height of the gear units, which can meet the requirement of the crane. The maximum nominal transmission ratio reaches 400, which meets the requirement of the low-speed crane.
- The gear units features combined type product with three stages and four stages (three-stage assemble type, four-stage transmission ratio). The gear units provides the convenience of universal offer for the low speed crane.
- Three-point-mounted gear units can be mounted in the vertical, horizontal and even some slope positions.

1.2 Work conditions

- The circular velocity of the gear $\leq 20\text{m/s}$
- The input speed of high-speed shaft $\leq 1500\text{r/min}$
- The ambient temperature ranging from -40 to +45℃
- Direction of rotation: bi-directional

1.3 型号表示

1.3 Product designations

QY3D

160

56

V

P

L

产品类型 / Type
详见 1.4 章 / See chapter 1.4

名义中心距 / Nominal center distance

公称传动比 / Nominal ratio

装配形式 / Assembly type
见下表 / See following table

低速轴端型式 / Output shaft type
P= 圆柱轴伸 / Solid shaft with key
H= 花键轴伸 / Splined shaft
C= 齿轮轴伸 / Geared shaft
详见第 04 页 / See page 04

安装型式 / Mounting
W= 卧式安装 / Horizontal (可省略)
L= 立式安装 / Vertical
见下表 / See following table

装配型式 Assembly type				
I 	III 	V 	VII 	IX
II 	IV 	VI 	VIII 	

W: 卧式安装
Horizontal

L: 立式安装
Vertical

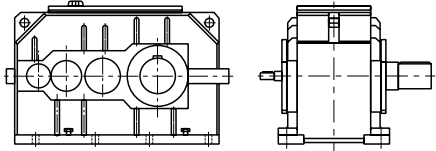
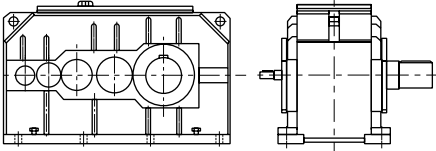
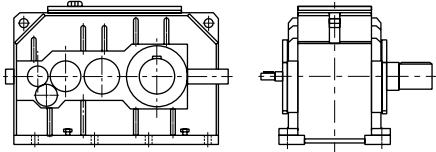
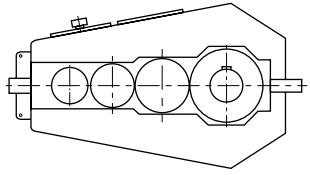
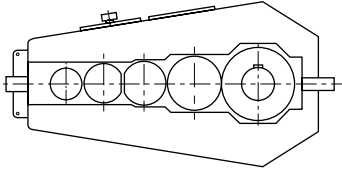
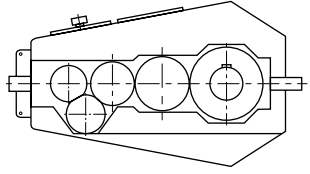
卧式安装和立式安装的角度范围
Mounting angle scope for Horizontal and Vertical

1.4 产品类型

起重机专用减速器按传动级数和安装型式不同共有六个系列, 详见下表:

1.4 Type

There are six series gear units depending on different ratio and mounting type of gear units for crane, see the table below:

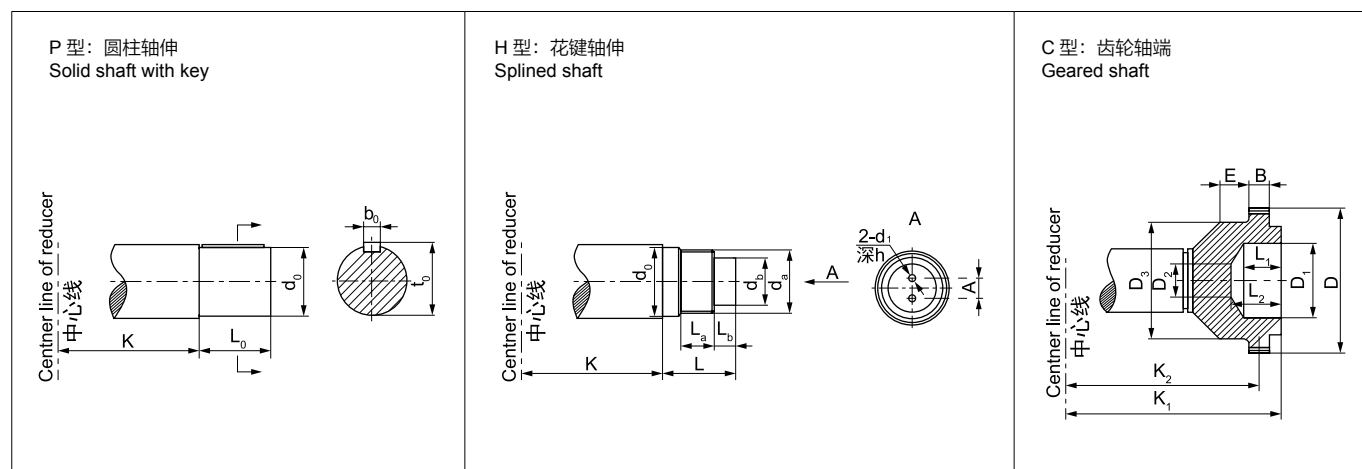
代号 Designation	示意图 Figure	说明 Series
QY3D		三级传动底座式安装减速器 3 stages foot-mounted gear units
QY4D		四级传动底座式安装减速器 4 stages foot-mounted gear units
QY34D		三、四级结合传动底座式安装减速器 3(4) stages foot-mounted gear units
QY3S		三级传动三支点安装减速器 3 stages three- point mounted gear units
QY4S		四级传动三支点安装减速器 4 stages three-point mounted gear units
QY34S		三、四级结合传动三支点安装减速器 3(4) stages three-point mounted gear units

产品说明

Product Description

1.5 低速轴端型式

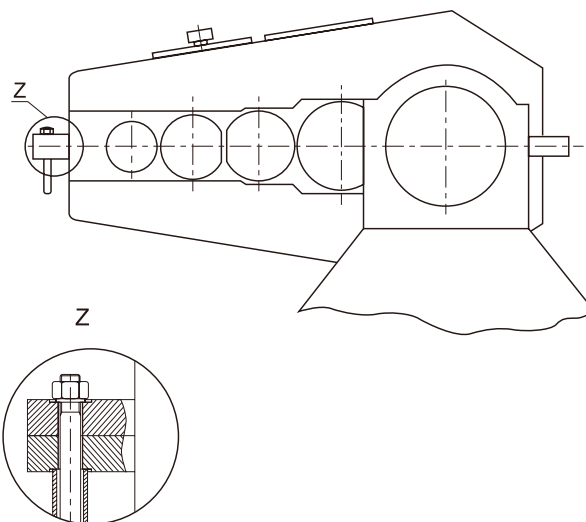
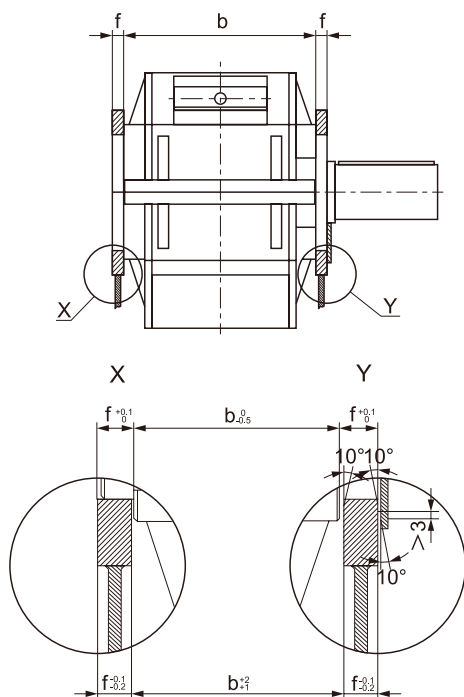
1.5 Output shaft type



名义中心距 Nominal center distance a ₁	K		P 型 / Type P				H 型 / Type H									
	QY3D QY4D QT34D	QY3S QY4S QY34S	d ₀ (m6)	L ₀	b ₀	t ₀	m x z	d _a (h11)	d _b (k6)	d ₀ (k6)	L	L _a	L _b	d ₁	h	A
160	155	185	75	105	20	79.5	3x18	57	50	60	82	35	27	M6	16	25
180	165	195	90	130	25	95	3x22	69	60	70	90	40	30	M6	16	30
200	185	215	95	130	25	100	3x27	84	70	85	95	45	30	M10	20	35
225	205	230	100	165	28	106	5x18	95	80	100	125	55	35	M12	25	40
250	225	255	110	165	28	116	5x22	115	100	120	135	60	40	M12	25	40
280	250	270	130	200	32	137	5x22	115	100	120	135	60	40	M12	25	40
315	265	310	140	200	36	148	5x26	135	120	140	155	75	45	M12	25	50
355	290	335	170	240	40	179	5x30	155	140	160	165	80	50	M12	25	60
400	325	375	180	240	45	190	5x34	175	160	180	180	90	55	M16	30	80
450	365	415	220	280	50	231	5x38	195	180	200	190	100	55	M16	30	80
500	420	450	260	330	56	272	8x26	216	190	222	205	110	60	M16	30	110
560	460	510	280	380	63	292	8x30	248	220	254	220	125	60	M16	30	110
630	520	565	300	380	70	314	8x34	280	250	286	235	140	60	M16	30	140
710	550	600	340	450	80	355	8x38	312	280	318	260	155	70	M20	40	140
800	625	670	400	540	90	417	8x44	360	320	366	285	175	75	M20	40	160
名义中心距 Nominal center distance a ₁	C 型 / Type C															
	m x z	D	D ₁ (H7)	K ₁	K ₂	B	E	D ₂	D ₃ (f9)	L ₁	L ₂					
160	-	-	-	-	-	-	-	-	-	-	-					
180	3x56	174	90	279.5	253	25	25	40	135	45	60					
200	4x56	232	120	302.5	271	35	25	40	170	50	75					
225	4x56	232	120	339.5	308	35	25	40	170	50	75					
250	6x56	348	170	402	370	40	32	45	260	76	100					
280	6x56	348	170	402	370	40	32	45	260	76	100					
315	6x56	348	170	429	397	40	32	45	260	76	100					
355	8x48	400	180	450	415	50	32	50	260	78	100					
400	8x54	448	200	482	442	50	32	105	280	78	110					
450	10x48	500	200	545	505	60	35	105	300	80	120					
500	10x58	600	250	620	575	70	40	110	340	85	125					
560	10x58	600	250	620	575	70	40	110	360	85	125					

1.6 三点安装的支承型式

1.6 For three-point mounted gear units



产品选型

Product Planning

2.1 选型步骤

- 1) 确定减速器的公称传动比 i_N
计算传动比

$$i_s = \frac{n_1}{n_2} \dots\dots\dots (1)$$

式中：

i_s —要求的传动比；

n_1 —输入轴的转速，单位为 r/min。

n_2 —工作机的转速，单位为 r/min。

根据要求的传动比 i_s ，选取减速器的公称传动比 i_N

2.1 Procedure

- 1) Determining the nominal transmission ratio i_N
Calculating transmission ratio

In which:

i_s —Required transmission ratio

n_1 —The speed of the input shaft, r/min

n_2 —The speed of the driven machine, r/min

According to the required transmission ratio i_s , determining the nominal transmission ratio i_N

- 2) 确定减速器的公称输入功率 P_N
减速器的计算功率

$$P_s \geq P_2 \times f_1 \times f_2 \dots\dots\dots (2)$$

式中：

P_s —减速器的计算功率，单位为 kW；

P_2 —工作机的额定功率，单位为 kW；

f_1 —载荷系数，见第 8 页

f_2 —原动机系数，电动机取 $f_2=1$

根据 n_1 、 i_s 和 P_s ，从 2.3 相应公称输入功率表 (9~10 页) 中选取合适的减速器的名义中心距 a_1 ，确保符合公式 (3)

In which:

P_s —The calculated power of the gear unit, kW

P_2 —The rating power of the driven machine, kW

f_1 —Load factor, see page 8

f_2 —The driving factor, $f_2=1$ for motor

Selecting the nominal center distance a_1 , from chapter 2.3 (page 9~10) depending on n_1 , i_s and P_s . It is satisfied with formula 3.

$$P_s \leq P_N \dots\dots\dots (3)$$

- 3) 校核减速器的最大转矩
按式 (4) 校核减速器的最大转矩

$$M_n \times \frac{n_1 \times f_3}{9550} \leq P_N \dots\dots\dots (4)$$

式中：

M_n —电动机的额定转矩，单位为 Nm；

f_3 —峰值转矩系数，见第 8 页

- 3) Checking up the maximum torque
Checking up the maximum torque in formula(4)

In which:

M_n —The rated torque of the motor, Nm

f_3 —Peak torque factor, see page 8.

例：一台额定起重量为 32t，跨度 22.5m 的连续装卸用抓斗桥式起重机，其起升机构所需要静功率为 50kW，起升速度为 8m/min，转速为 18.5r/min，机构工作级别为 M7；起升机构电动机的额定功率为 60kW，转速 750r/min。试选择减速器（第 III 种装配型式，齿轮轴端）。

For example: Overhead crane with grab for continuous charging and discharging features rated weight 32t, span 22.5m. The hoisting mechanism needs static power 50kW, hoisting speed 8m/min, speed 18.5r/min, the operating group M7; The rated power of motor is 60kW, and speed is 750r/min. Please select the gear unit (mounting position III, gear shaft end)

1) 计算传动比
按式 (1)

1) Calculating transmission ratio
According to formula(1)

$$i_s = \frac{n_1}{n_2} = \frac{750}{18.5} = 40.5$$

选 $i_N=40$ 三级传动 (QY3S 型)。

Select $i_N=40$, three stages (QY3S)

2) 确定减速器的公称输入功率
减速器的计算功率按式 (2)

2) Determining the nominal input power of the gear unit.
Calculating power according to formula(2)

$$P_s \geq P_2 \times f_1 \times f_2$$

工作级别为 M7 的连续装卸用抓斗桥式起重机，其起升机构利用等级为 T6，载荷状况为 L3，查第 8 页表，得 $f_1 = 1.2$ ，且 $f_2 = 1$ ：

Overhead crane with grab for continuous charging and discharging with the operating group M7, its degree of utilization for the hoisting mechanism is T6 and its load status is L3. Selecting $f_1=1.2$ from table in page 8 and $f_2=1$.

$$P_s = 50 \times 1.2 \times 1 = 60\text{kW}$$

当 $n_1=750\text{r/min}$ ， $i_N=40$ 查表 1 (第 9 页)， $a_1=355\text{mm}$ ，减速器公称输入功率 $P_N=74.9\text{kW}$ 满足式 (3)： $P_s \leq P_N$

When, $n_1=750\text{r/min}$, $i_N=40$, $a_1=355\text{mm}$ from table 1 (page 9), nominal input power of the gear unit is $P_N=74.9\text{kW}$, meets the need of formula(3): $P_s \leq P_N$

3) 校核减速器的最大转矩
电动机额定转矩：

3) Checking up the maximum torque of the gear units
The rated torque of the motor

$$M_n = 9550 \times \frac{P_1}{n_1} = 9550 \times \frac{60}{750} = 764\text{Nm}$$

由 L3、T6、M7 查第 8 页表，起升机构 $f_3 = 1.0$ ，则按式 (4)

According to L3、T6、M7, from page 8, hoisting mechanism $f_3=1.0$, the formula (4)

$$M_n \times \frac{n_1 \times f_3}{9550} = \frac{764 \times 750 \times 1.0}{9550} = 60\text{kW}$$

减速器公称输入功率 $P_N=74.9\text{kW} > 60\text{kW}$ ，满足式 (4) 的要求。
最后选定减速器为：QY3S 355-40-III-C。

Nominal input power $P_N=74.9\text{kW} > 60\text{kW}$, which meets the need of formula (4). The result for selecting the gear unit: QY3S 355-40-III-C.

2.2 载荷和峰值系数

2.2 Load factor and peak torque factor

载荷状况 Load class		立方根均值 Cube root	系数 Factor	利用等级 / Degree of utilization																			
				T0		T1		T2		T3		T4		T5		T6		T7		T8		T9	
				总的使用时间 / Total working time																			
				≤200		>200 ~400		>400 ~800		>800 ~1600		>1600 ~3200		>3600 ~6300		> 6300 ~12500		>12500 ~25000		>25000 ~50000		>50000	
轻 Light L1	很少 额定载荷 一般轻微载荷 Some time rated load and common light load	K≤0.50	f ₁ f _{3a} f _{3b}	0.8 0.8 1.2	M1	0.8 0.8 1.2	M1	0.8 0.8 1.3	M1	0.8 0.8 1.3	M2	0.8 0.8 1.3	M3	0.9 0.8 1.3	M4	1.0 0.9 1.4	M5	1.0 1.0 1.5	M6	1.1 1.15 1.6	M7	1.2 1.3 1.8	M8
中 Medium L2	有时额定载荷 经常作用 轻微载荷 Not often rated load and often light load	0.50 < K≤0.63	f ₁ f _{3a} f _{3b}	0.8 0.8 1.2	M1	0.8 0.8 1.2	M1	0.8 0.8 1.3	M2	0.9 0.8 1.3	M3	0.9 0.8 1.3	M4	1.0 0.8 1.3	M5	1.1 0.9 1.4	M6	1.2 1.0 1.5	M7	1.3 1.15 1.6	M8	1.4 1.3 1.8	M8
重 Heavy L3	经常作用 额定载荷 一般作用 中等载荷 Often rated load and medium load	0.63 < K≤0.80	f ₁ f _{3a} f _{3b}	0.8 0.8 1.2	M1	0.8 0.8 1.3	M2	0.9 0.8 1.3	M3	1.0 0.8 1.3	M4	1.0 0.8 1.3	M5	1.1 0.9 1.4	M6	1.2 1.0 1.5	M7	1.3 1.15 1.6	M8	1.4 1.3 1.8	M8	1.6 1.5 2.0	M8
特重 Very heavy L4	频繁作用 额定载荷 Frequent rated load	0.80 < K≤1.00	f ₁ f _{3a} f _{3b}	0.9 0.8 1.3	M2	0.9 0.8 1.3	M3	1.0 0.8 1.3	M4	1.1 0.8 1.3	M5	1.2 0.8 1.3	M6	1.3 0.9 1.4	M7	1.4 1.0 1.5	M8	1.6 1.15 1.6	M8	1.8 1.3 1.8	M8	2.0 1.5 2.0	M8

1) f_1 —载荷系数

2) f_{3a} —峰值系数，在恒定载荷下，起重机的起升机构或变幅机构

3) f_{3b} —峰值系数，在交变载荷作用下，起重机的回转机构或运行机构

4) k —立方根均值，详见 GB/T3811 机构载荷谱

1) f_1 —Load factor.

2) f_{3a} —The peak torque factor, in the constant load, hoisting mechanism of the crane or luffing mechanism

3) f_{3b} —The peek torque factor, in the alternating load, slewing mechanism of the crane or travelling mechanism

4) k —Cube root, please refer to the mechanism load spectrum in GB/T3811

2.3 公称输入功率及许用径向力

2.3 Nominal input power and permitted overhung load

表 1 QY3D、QY3S 公称输入功率

Table1 Nominal input power of QY3D and QY3S

输入轴 转速 Input Speed n_1 r/min	名义 中心距 Nominal center distance a_1	输出 转矩 Output torque T_N Nm	公称传动比 / Nominal transmission ratio i_N															
			16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
			公称输入功率 / Nominal input power P_N kW															
600	160	2800	9.5	9.0	8.4	7.9	7.3	6.7	5.9	5.2	4.6	4.1	3.7	2.9	2.7	2.6	2.4	2.1
	180	3800	11.8	11.0	10.4	9.8	9.2	8.6	8.4	7.9	7.0	6.2	5.5	4.8	4.5	3.9	3.2	3.1
	200	6300	21.9	20.6	19.3	18.0	16.5	14.5	12.8	11.4	10.1	9.0	8.2	7.1	6.2	5.5	5.1	4.4
	225	8800	27.7	25.6	24.2	22.8	21.3	19.9	17.8	15.9	14.2	12.6	11.2	9.9	9.0	8.2	7.2	6.3
	250	13400	47.6	45.0	42.3	39.6	36.8	30.8	27.1	23.8	21.4	18.8	17.2	15.1	13.7	11.9	10.5	9.7
	280	16500	54.6	50.9	47.9	45.2	41.3	37.0	34.5	29.5	28.2	24.0	22.2	19.7	17.0	14.8	13.5	12.5
	315	25000	92.8	86.2	76.1	68.8	62.0	55.6	49.6	44.4	39.6	35.1	31.3	28.4	24.9	21.6	19.2	17.9
	355	37000	127.5	118.6	112.4	105.3	94.8	84.9	74.5	66.0	59.9	53.1	47.3	41.1	38.2	33.9	30.4	27.3
	400	53000	181.3	172.7	159.1	146.6	131.6	117.6	104.5	92.8	82.8	73.0	67.3	58.5	54.3	48.2	42.2	36.5
	450	72000	270.2	247.7	224.5	202.9	182.6	163.7	143.7	128.4	114.5	101.5	90.5	78.7	73.0	63.4	55.5	51.5
	500	102000	392.8	354.4	318.9	286.0	255.5	227.0	200.4	175.5	163.0	142.7	131.0	116.5	104.5	90.9	79.8	72.0
	560	128000	498.4	443.8	403.6	366.0	314.0	282.0	262.7	224.7	214.5	182.7	169.1	150.2	129.9	112.9	103.1	95.6
	630	185000	729.3	635.5	576.1	520.8	469.0	420.6	369.3	330.1	294.5	260.9	232.7	202.3	187.8	163.3	144.6	134.2
	710	252000	995.6	904.4	779.2	702.9	631.5	564.6	502.1	446.9	407.5	359.4	331.4	288.2	260.1	231.3	205.7	174.4
750	800	355000	1403.9	1275.5	1099.5	992.0	891.4	797.1	708.6	629.7	562.2	495.8	457.3	397.7	369.1	327.8	287.0	248.3
	160	2800	11.9	11.2	10.5	9.8	9.1	8.4	7.3	6.5	5.8	5.1	4.7	3.6	3.3	3.2	3.0	2.6
	180	3800	14.8	13.7	13.0	12.2	11.5	10.7	10.5	9.8	8.8	7.8	6.9	6.0	5.6	4.9	4.0	3.8
	200	6300	27.3	25.7	24.1	22.5	20.6	18.2	16.0	14.2	12.6	11.2	10.2	8.9	7.8	6.9	6.4	5.5
	225	8800	34.6	32.0	30.3	28.5	26.7	24.8	22.3	19.9	17.8	15.7	14.0	12.4	11.3	10.3	9.0	7.9
	250	13400	59.5	56.2	52.9	49.5	46.1	38.4	33.9	29.7	26.8	23.5	21.5	18.8	17.2	14.9	13.1	12.2
	280	16500	68.3	63.6	59.9	56.6	51.6	46.3	43.1	36.9	35.3	30.0	27.7	24.6	21.3	18.5	16.9	15.7
	315	25000	116.0	107.8	95.1	86.0	77.5	69.6	62.1	55.5	49.5	43.8	39.1	35.5	31.1	27.0	24.1	22.3
	355	37000	159.4	148.2	140.5	131.6	118.5	106.2	93.2	82.5	74.9	66.3	59.1	51.4	47.7	42.4	38.0	34.1
	400	53000	226.7	215.8	198.9	183.2	164.5	147.0	130.6	116.0	103.5	91.2	84.1	73.1	67.9	60.2	52.7	45.6
	450	72000	337.7	309.7	280.6	253.6	228.3	204.6	179.6	160.6	143.2	126.8	113.1	98.3	91.2	79.3	69.4	64.4
	500	102000	491.0	443.0	398.7	357.6	319.4	283.8	250.5	219.4	203.7	178.4	163.7	145.6	130.7	113.6	99.7	90.0
	560	128000	623.0	554.8	504.5	457.5	392.5	352.5	328.3	280.8	268.6	228.4	211.4	187.7	162.4	141.2	128.8	119.6
	630	185000	911.6	794.3	702.1	650.9	586.3	525.7	461.6	412.6	368.1	326.2	290.9	252.9	234.7	204.1	180.8	167.7
1000	710	252000	1244.5	1130.4	974.1	878.6	789.3	705.7	627.6	558.7	509.4	449.2	414.3	360.2	325.1	289.1	257.2	218.0
	800	355000	1754.9	1594.4	1374.4	1240.0	1114.3	996.4	885.7	787.1	702.7	619.8	571.6	497.1	461.4	409.7	358.7	310.3
	160	2800	15.9	15.0	14.1	13.1	12.2	11.2	9.8	8.7	7.7	6.8	6.2	4.8	4.4	4.3	4.0	3.5
	180	3800	19.7	18.3	17.3	16.3	15.3	14.3	14.1	13.1	11.7	10.4	9.2	8.0	7.5	6.5	5.4	5.2
	200	6300	36.4	34.3	32.2	30.0	27.4	24.2	21.3	19.0	16.9	14.9	13.6	11.9	10.4	9.2	8.5	7.4
	225	8800	46.1	42.7	40.4	38.0	35.6	33.1	29.7	26.5	23.7	21.0	18.7	16.5	15.1	13.7	12.0	10.5
	250	13400	79.3	75.0	70.5	66.0	61.4	51.3	45.2	39.6	35.7	31.3	28.7	25.1	22.9	19.9	17.5	16.2
	280	16500	91.1	84.8	79.8	75.4	68.8	61.7	57.5	49.1	47.0	39.9	37.0	32.8	28.4	24.7	22.5	20.9
	315	25000	154.7	143.7	126.9	114.7	103.4	92.7	82.7	74.0	66.0	58.4	52.1	47.3	41.5	36.0	32.1	29.8
	355	37000	212.6	197.7	187.3	175.5	158.0	141.6	124.2	110.0	99.8	88.4	78.8	68.5	63.6	56.5	50.7	45.5
	400	53000	302.2	287.8	265.2	244.3	219.4	196.0	174.1	154.7	138.0	121.7	112.2	97.5	90.5	80.3	70.3	60.8
	450	72000	450.3	412.9	374.2	338.1	304.4	272.8	239.5	214.1	190.9	169.1	150.8	131.1	121.7	105.7	92.6	85.9
	500	102000	654.7	590.7	531.5	476.7	425.8	378.4	334.1	292.6	271.6	237.9	218.3	194.1	174.2	151.4	133.0	120.0
	560	128000	830.7	739.7	672.7	610.0	523.4	470.0	437.8	374.5	358.2	304.5	281.9	250.3	216.5	188.2	171.8	159.4
1500	630	185000	1215.5	1509.1	960.2	867.9	781.7	700.9	615.4	550.2	490.8	434.9	387.9	337.2	313.0	272.1	241.0	223.7
	710	252000	1659.3	1507.2	1298.7	1171.5	1052.5	940.9	836.8	744.9	679.1	599.0	552.4	480.3	433.5	385.5	342.9	290.7
	800	355000	2339.8	2125.8	1832.6	1653.4	1485.7	1328.6	1180.9	1049.5	936.9	826.3	762.2	662.8	615.1	546.3	478.3	413.8
	160	2800	23.8	22.5	21.1	19.7	18.3	16.7	14.7	13.0	11.6	10.3	9.4	7.3	6.6	6.5	6.0	5.3
	180	3800	29.5	27.4	25.9	24.5	22.9	21.4	21.2	19.7	17.6	15.6	13.9	12.1	11.2	9.8	8.0	8.0
	200	8300	54.6	51.5	48.3	45.0	41.1	36.4	31.9	28.5	25.3	22.4	20.4	17.8	15.5	13.8	12.8	11.1
	225	8800	69.2	64.0	60.5	57.0	53.4	49.7	44.5	39.8	35.3	31.5	28.0	24.7	22.6	20.5	18.0	15.7
	250	13400	119.0	112.4	105.8	99.0	92.1	76.9	67.9	59.4	53.6	46.9	43.0	37.7	34.3	29.8	26.2	24.3
	280	16500	136.6	127.2	119.7	113.1	103.1	92.6	86.2	73.7	70.5	59.9	55.4	49.2	42.6	37.0	33.8	31.3
	315	25000	232.0	215.6	190.3	172.1	155.1	139.1	124.1	111.0	98.9	87.7	78.2	71.0	62.2	54.1	48.1	44.6
	355	37000	318.9	296.5	280.9	263.2	236.9	212.3	186.3	165.1	149.7	132.6	118.3	102.8	95.4	84.8	76.0	68.2
	400	53000	453.3	431.7	397.8	366.5	329.0	294.0	261.1	232.0	207.0	182.5	168.2	146.2	135.7	120.5	105.4	91.2
	450	72000	675.5	619.3	561.3	507.1	456.6	409.3	359.2	321.1	286.4	253.7	226.2	196.6	182.5	158.6	138.8	128.8
	500	102000	982.0	886.0	797.3	715.1	638.7	567.6	501.1	439.8	407.4	356.8	327.4	291.2	261.3	227.2	199.5	180.0
	560	128000	1246.0	1109.5	1009.0	915.0	785.0	704.9	656.7	561.7	537.3	456.8	422.8	375.4	324.8	282.3	257.7	239.1
	630	185000	1823.2	1588.6	1440.3	1301.9	1172.5	1051.4	923.1	825.2	736.2	652.3	581.8	505.9	469.4	408.1	361.5	335.5
	710	252000	2489.0	2260.7	1948.1	1757.2	1578.7	1411.4	1255.2	1117.3	1018.7	898.5	828.6	720.5	650.2	578.3	514.3	436.1
	800	355000	3509.7	3188.8	2748.9	2480.0	2228.6	1992.8	1771.4	1574.3	1405.4	1239.5	1143.3	994.2	922.7	819.4	717.5	620.7

产品选型

Product Planning

表 2 QY4D、QY4S、QY34D、QY34S 公称输入功率

Table 2 Nominal input power of QY4D, QY4S, QY34D and QY34S

输入轴 转速 Input Speed n_1 r/min	名义 中心距 Nominal center distance a_1	输出 转矩 Output torque T_N Nm	公称传动比 / Nominal transmission ratio i_N												
			100	112	125	140	160	180	200	224	250	280	315	355	400
			公称输入功率 / Nominal input power P_N kW												
600	200	6300	3.3	3.1	2.9	2.6	2.4	2.3	2.2	2.0	1.8	1.6	1.4	1.3	1.1
	225	8800	5.7	5.0	4.4	4.0	3.7	3.3	3.1	2.8	2.5	2.3	2.1	1.9	1.7
	250	13400	8.6	7.7	6.8	6.1	5.5	5.1	4.5	4.0	3.8	3.4	3.1	2.7	2.5
	280	16500	10.9	9.6	8.4	7.6	7.0	6.6	5.8	5.3	4.7	4.2	3.9	3.7	3.2
	315	25000	16.3	14.6	12.8	11.5	10.4	9.4	8.5	7.8	7.2	6.4	5.7	5.1	4.8
	355	37000	24.2	21.5	18.9	16.8	15.6	14.1	12.6	11.4	10.5	9.3	8.7	7.8	7.1
	400	53000	33.5	30.0	27.9	24.0	22.5	20.1	18.1	16.3	14.4	12.7	11.9	11.0	9.7
	450	72000	45.0	40.4	36.0	32.3	29.3	26.5	24.4	22.4	20.0	17.7	16.6	15.0	13.5
	500	102000	65.5	58.7	51.4	46.2	41.8	38.8	34.3	31.0	29.0	25.7	23.4	21.3	19.4
	560	128000	80.8	72.2	64.2	60.1	53.7	50.2	44.4	40.0	37.5	33.2	29.6	27.7	24.4
	630	185000	119.8	107.4	94.2	84.3	76.3	69.1	61.1	56.2	52.6	46.6	42.0	38.8	35.1
	710	252000	164.0	145.6	128.5	114.5	106.2	98.9	89.3	80.6	73.4	64.9	59.3	53.0	45.9
750	800	355000	227.7	204.3	190.3	163.6	152.9	136.6	123.1	110.9	97.7	86.5	81.0	74.8	65.9
	200	6300	4.1	3.9	3.6	3.3	3.0	2.9	2.7	2.4	2.3	1.9	1.8	1.6	1.4
	225	8800	7.1	6.3	5.5	5.0	4.6	4.2	3.8	3.5	3.2	2.8	2.6	2.4	2.1
	250	13400	10.7	9.6	8.4	7.6	6.9	6.4	5.7	5.0	4.7	4.2	3.9	3.4	3.2
	280	16500	13.6	12.0	10.6	9.5	8.8	8.2	7.3	6.6	5.9	5.2	4.9	4.6	4.0
	315	25000	20.3	18.2	16.0	14.4	13.0	11.8	10.6	9.7	9.0	8.0	7.1	6.4	6.0
	355	37000	30.2	26.8	23.7	21.0	19.5	17.6	15.7	14.2	13.1	11.6	10.9	9.7	8.9
	400	53000	41.8	37.5	34.9	30.0	28.1	25.1	22.6	20.4	18.0	15.9	14.9	13.8	12.2
	450	72000	56.3	50.5	45.0	40.4	36.6	33.1	30.5	28.0	25.0	22.1	20.7	18.7	16.9
	500	102000	81.9	73.3	64.3	57.8	52.3	48.5	42.9	38.8	36.3	32.1	29.2	26.6	24.3
	560	128000	101.0	90.2	80.3	75.1	67.1	62.7	55.5	50.0	46.9	41.5	37.0	34.6	30.5
	630	185000	149.8	134.2	117.7	105.4	95.4	86.3	76.4	70.2	65.8	58.2	52.5	48.5	43.8
1000	710	252000	205.0	182.1	160.6	143.1	132.7	123.7	111.6	100.8	91.7	81.2	74.2	66.2	57.3
	800	355000	284.7	255.4	237.9	204.5	191.2	170.7	153.9	138.7	122.2	108.1	101.3	93.5	82.4
	200	6300	5.5	5.1	4.8	4.4	4.0	4.0	3.6	3.3	3.1	2.6	2.4	2.1	1.9
	225	8800	9.5	8.4	7.4	6.6	6.1	5.6	5.1	4.7	4.2	3.8	3.5	3.1	2.8
	250	13400	14.3	12.8	11.3	10.1	9.2	8.5	7.5	6.7	6.3	5.6	5.2	4.5	4.2
	280	16500	18.1	16.0	14.1	12.7	11.7	11.0	9.7	8.8	7.8	6.9	6.5	6.1	5.4
	315	25000	27.1	24.3	21.3	19.1	17.3	15.7	14.1	13.0	12.0	10.6	9.5	8.5	7.9
	355	37000	40.3	35.8	31.5	28.0	26.0	23.5	21.0	18.9	17.5	15.5	14.5	13.0	11.8
	400	53000	55.8	50.0	46.6	40.1	37.5	33.5	30.2	27.2	24.0	21.2	19.9	18.4	16.2
	450	72000	75.1	67.3	60.0	53.9	48.8	44.2	40.6	37.3	33.3	29.5	27.6	25.0	22.5
	500	102000	109.1	97.8	85.7	77.0	69.7	64.7	57.2	51.7	48.4	42.8	39.0	35.4	32.4
	560	128000	134.7	120.3	107.1	100.1	89.4	83.6	74.0	66.7	62.5	55.3	49.3	46.2	40.7
1500	630	185000	199.7	178.9	156.9	140.5	127.2	115.1	101.9	93.6	87.7	77.6	70.0	64.7	58.4
	710	252000	273.3	242.7	214.2	190.8	177.0	164.9	148.9	134.4	122.3	108.2	98.9	88.3	76.4
	800	355000	379.6	340.6	317.1	272.7	254.9	227.6	205.1	184.9	162.9	144.1	135.0	124.7	109.8
	200	6300	8.3	7.7	7.2	6.6	6.1	6.0	5.4	4.9	4.6	3.9	3.6	3.2	2.8
	225	8800	14.3	12.6	11.1	10.0	9.2	8.4	7.7	7.1	6.3	5.7	5.3	4.7	4.2
	250	13400	21.5	19.3	16.9	15.2	13.8	12.8	11.3	10.0	9.4	8.4	7.7	6.8	6.4
	280	16500	27.2	24.0	21.1	19.0	17.6	16.4	14.6	13.2	11.7	10.4	9.8	9.2	8.1
	315	25000	40.7	36.4	32.0	28.7	26.0	23.6	21.2	19.5	18.0	16.0	14.3	12.7	11.9
	355	37000	60.4	53.6	47.3	42.0	39.0	35.3	31.5	28.4	26.2	23.2	21.8	19.4	17.7
	400	53000	83.6	75.0	69.9	60.1	56.2	50.2	45.3	40.8	36.0	31.9	29.9	27.6	24.3
	450	72000	112.6	101.0	90.0	80.8	73.2	66.3	60.9	56.0	49.9	44.2	41.4	37.4	33.8
	500	102000	163.7	146.6	128.6	115.5	104.5	97.0	85.9	77.5	72.6	64.3	58.4	53.2	48.6
	560	128000	202.0	180.4	160.6	150.2	134.1	125.4	111.0	100.1	93.8	83.0	73.9	69.3	61.0
	630	185000	299.6	268.4	235.4	210.8	190.8	172.7	152.8	140.4	131.5	116.4	105.1	97.1	87.6
	710	252000	410.0	364.1	321.3	286.1	265.5	247.3	223.3	201.6	183.4	162.3	148.4	132.5	114.7
	800	355000	569.4	510.8	475.7	409.0	382.3	341.4	307.7	277.3	244.4	216.2	202.5	187.0	164.7

表 3 许用径向力

Table 3 permitted overhung load

名义中心距 Nominal center distance a_1	160	180	200	225	250	280	315	355	400	450	500	560	630	710	800
最大允许径向载荷 The maximum radial load R kN	10	15	25	32	40	48	52	60	90	120	150	170	200	240	270

2.4 实际传动比

2.4 Actual ratio

表 4 QY3D、QY3S 减速器的实际传动比

Table 4 Actual ratio of QY3D and QY3S

名义中心距 Nominal center distance a_i mm	公称传动比 / Nominal transmission ratio i_N															
	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
	实际传动比 / Actual transmission ratio i															
160	16.13	17.18	19.60	22.42	25.54	27.20	31.03	35.71	38.46	43.28	49.81	56.72	64.22	72.83	83.34	90.34
180	16.59	17.71	19.88	22.86	25.85	27.60	30.98	35.01	39.88	45.90	52.09	58.32	65.00	72.42	81.72	93.71
200	16.79	17.89	20.70	23.68	25.60	27.27	31.55	35.26	39.67	45.02	50.87	57.24	64.41	73.09	83.81	90.20
225	15.32	17.54	18.84	21.67	24.67	28.25	30.34	34.29	39.06	44.96	50.99	58.09	62.98	72.38	83.16	90.58
250	15.89	17.19	19.16	23.03	25.79	27.89	31.08	35.54	40.19	45.60	50.81	57.17	65.56	74.39	81.64	93.01
280	16.11	17.96	20.13	22.53	25.35	28.26	31.68	35.75	38.64	43.65	49.54	56.09	63.12	70.50	75.88	85.90
315	15.26	17.03	19.11	21.62	24.63	27.49	30.84	34.83	39.66	44.98	51.70	58.87	64.12	72.56	83.03	91.17
355	15.83	16.95	18.93	22.83	25.69	27.52	30.73	34.50	39.88	44.65	50.67	56.45	64.31	69.64	78.46	84.56
400	16.73	18.61	20.84	22.52	25.50	28.37	31.77	35.80	39.67	44.64	49.86	56.58	64.06	72.92	82.84	92.28
450	15.97	17.76	19.83	21.78	24.81	27.58	30.79	34.57	39.06	44.50	50.36	57.88	63.55	68.55	77.54	88.09
500	16.46	17.76	20.01	22.53	25.67	27.71	31.21	35.38	39.97	44.98	50.38	57.17	61.91	69.66	79.20	89.22
560	16.20	18.24	20.33	22.10	25.50	28.70	32.00	35.87	38.64	43.75	49.64	55.45	63.12	70.09	79.61	90.44
630	15.72	17.76	18.91	22.27	25.37	28.65	30.52	34.60	39.08	44.50	51.15	57.88	62.43	68.55	77.88	88.09
710	16.24	18.00	19.54	22.38	25.31	28.05	30.45	35.53	38.40	43.75	49.64	55.61	62.57	68.70	76.34	86.78
800	15.97	18.44	20.65	22.44	24.26	28.01	31.37	35.34	38.20	44.08	49.68	56.37	62.59	70.61	80.22	91.12

表 5 QY4D、QY4S、QY34D、QY34S 减速器的实际传动比

Table 5 Actual ratio of QY4D, QY4S, QY34D and QY34S

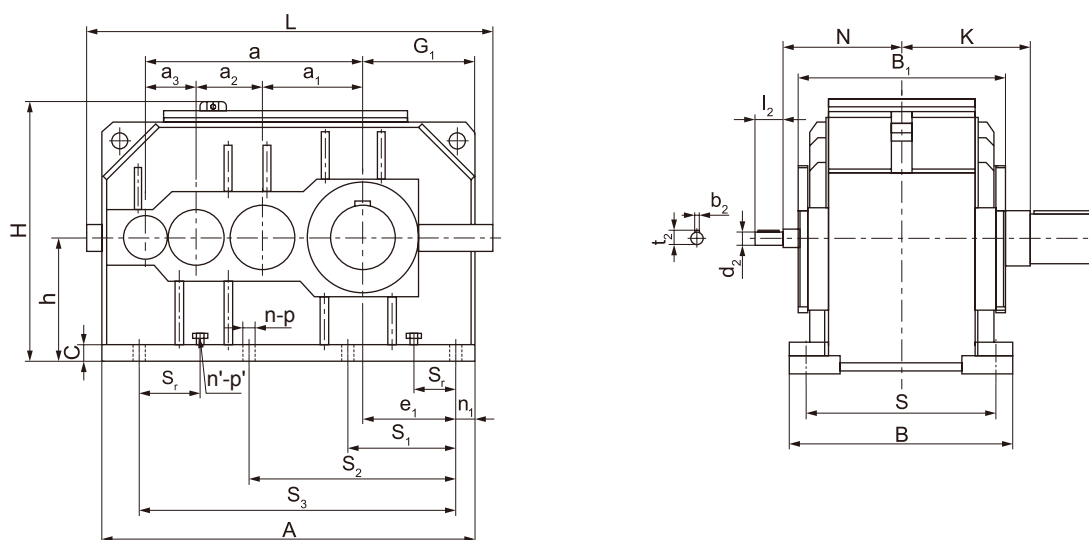
名义中心距 Nominal center distance a_i mm	公称传动比 / Nominal transmission ratio i_N												
	100	112	125	140	160	180	200	224	250	280	315	355	400
	实际传动比 / Actual transmission ratio i												
200	101.99	110.24	123.20	138.63	157.31	177.74	203.81	229.34	252.52	284.15	325.83	354.96	382.04
225	97.82	111.39	125.87	143.40	165.06	187.19	202.92	221.03	256.83	279.75	303.27	348.45	398.72
250	96.68	108.25	123.77	139.97	158.83	176.96	202.91	231.17	258.63	294.64	337.86	370.79	399.63
280	101.18	113.85	128.47	138.86	156.89	178.03	200.34	226.81	260.66	295.11	332.09	357.42	398.15
315	95.41	108.70	122.77	139.81	158.55	182.22	198.48	217.94	259.03	284.43	309.81	354.50	402.74
355	96.81	108.94	125.94	141.00	157.09	178.26	203.08	219.93	262.32	284.09	323.64	348.82	392.97
400	102.36	115.91	128.47	144.56	164.04	183.21	207.42	236.12	251.78	286.62	324.49	361.47	410.66
450	95.41	108.65	122.47	139.87	160.75	181.90	199.74	215.44	255.88	276.00	303.06	344.30	389.45
500	98.35	112.05	126.58	142.43	161.62	181.04	196.06	220.61	257.27	289.47	313.49	353.17	401.50
560	98.67	113.85	122.63	138.86	155.09	175.99	200.34	222.45	254.41	282.49	321.58	365.34	414.95
630	94.01	107.10	120.97	137.75	155.88	179.15	193.23	212.18	257.56	282.81	305.05	345.04	391.99
710	99.70	112.76	121.88	138.85	155.53	176.49	198.58	218.05	244.05	267.98	301.52	342.79	380.87
800	101.07	109.24	118.08	136.24	154.60	174.23	193.47	218.26	250.84	282.99	314.23	356.91	405.48

外形及安装尺寸

Dimensions Of Gear Units

3.1 QY3D 底座式减速器外形及安装尺寸

3.1 Dimensions of QY3D gear units



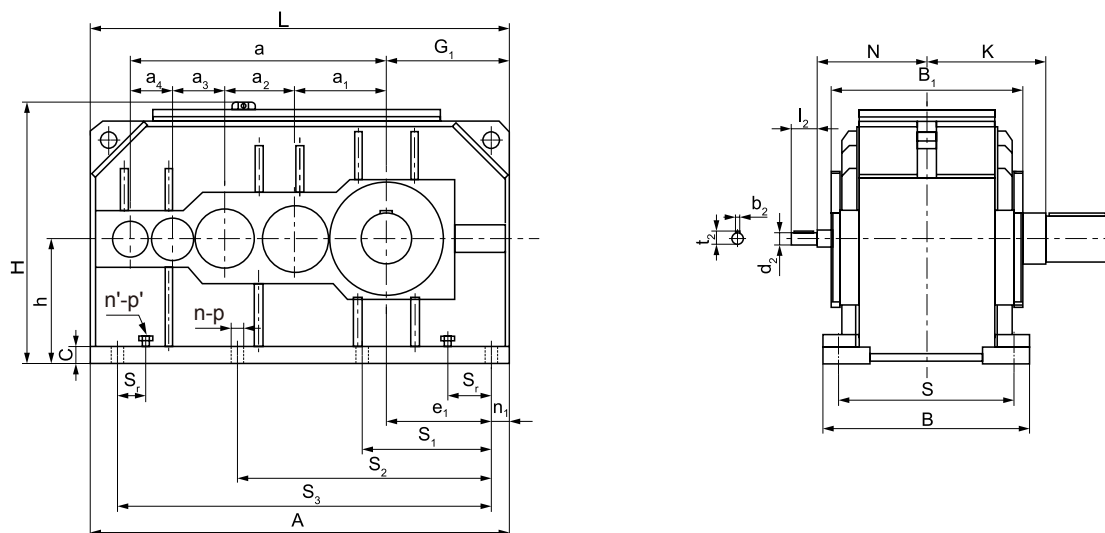
a ₁	h	a ₂	a ₃	a	N	高速轴端 High speed shaft end				外形尺寸 Outline dimension			地脚安装尺寸 Mounting dimension								调整螺栓 Adjusting bolt			A	B ₁	G ₁	n ₁	e ₁	重量 weight kg
						i=16~90				L	H	B	S	S ₁	S ₂	S ₃	C	P	n	S _r	p'	n'							
						d ₂	l ₂	b ₂	t ₂																				
160	112	80	352	135	24	50	8	27	630	352	250	200	250	500	-	20	18	6	-	-	-	550	220	183	25	118	158		
180	125	90	395	145	28	60	8	31	700	394	265	215	280	560	-	20	18	6	-	-	-	620	235	205	30	135	199		
200	140	100	440	160	32	80	10	35	780	431	295	235	310	620	-	25	22	6	-	-	-	700	265	225	40	145	260		
225	160	112	497	175	38	80	10	41	880	479	320	260	350	700	-	25	22	6	-	-	-	780	290	253	40	163	361		
250	180	125	555	195	42	110	12	45	970	524	360	290	390	780	-	30	26	6	-	-	-	870	340	275	45	180	502		
280	200	140	620	210	48	110	14	51.5	1081	579	400	325	435	875	-	30	26	6	-	-	-	965	375	300	45	205	678		
315	225	160	700	230	48/42	110/110	14/12	51.5/45	1254	659	445	365	500	1000	-	35	33	6	-	-	-	1100	405	355	50	240	917		
355	250	180	785	240	60/48	140/110	18/14	64/51.5	1384	736	470	390	565	1130	-	35	33	6	120	M24	4	1230	460	390	50	275	1237		
400	280	200	880	280	65/55	140/110	18/16	69/59	1549	821	520	430	455	845	1265	40	40	8	140	M24	4	1385	515	435	60	305	1726		
450	315	225	990	290	70/60	140/140	20/18	74.5/64	1719	980	570	480	500	950	1425	40	40	8	150	M30	4	1545	590	485	60	350	2567		
500	355	250	1105	325	80/65	170/140	22/18	85/69	1930	1075	630	530	575	1060	1590	50	45	8	170	M30	4	1730	660	540	70	385	3522		
560	400	280	1240	360	95/75	170/140	25/20	100/79.5	2120	1185	700	600	620	1190	1780	50	45	8	180	M36	4	1920	730	585	70	430	4692		
630	450	315	1395	410	110/85	210/170	28/22	116/90	2375	1335	800	680	690	1350	2015	60	52	8	200	M36	4	2175	835	665	80	500	6476		
710	500	355	1565	435	120/90	210/170	32/25	127/95	2670	1487	850	730	755	1515	2270	60	52	8	220	M42	4	2430	890	750	80	570	8674		
800	560	400	1760	490	140/100	250/210	36/28	148/106	2995	1669	960	830	845	1690	2535	70	62	8	240	M42	4	2735	1030	850	100	640	12560		

注：
分子表示 i=16~56 时高速轴端的尺寸；
分母表示 i=63~90 时高速轴端的尺寸。

Note:
Numerator denotes the dimension of the high-speed shaft end when i=16~56;
denominator denotes the dimension of the high-speed shaft end when i=63~90

3.2 QY4D 底座式减速器外形及安装尺寸

3.2 Dimensions of QY4D gear units



a ₁	h	a ₂	a ₃	a ₄	a	N	高速轴端 High-speed shaft end				外形尺寸 Outline dimension			地脚安装尺寸 Mounting dimension								调整螺栓 Adjusting bolt			A	B ₁	G ₁	n ₁	e ₁	重量 weight kg
							i=100~400				L	H	B	S	S ₁	S ₂	S ₃	C	P	n	S _r	p'	n'							
							d ₂ (k6)	l ₂	b ₂	t ₂																				
200	140	100	71	511	160	19	40	6	21.5	831	431	295	235	310	671	-	25	22	6	-	-	-	751	265	225	40	145	286		
225	160	112	80	577	175	24	50	8	27	945	479	320	260	350	700	-	25	22	6	-	-	-	845	290	253	40	163	378		
250	180	125	90	645	195	28	60	8	31	1035	524	360	290	390	845	-	30	26	6	-	-	-	935	340	275	45	180	523		
280	200	140	100	720	210	32	80	10	35	1156	579	400	325	435	950	-	30	26	6	-	-	-	1040	375	300	45	205	698		
315	225	160	112	812	230	38	80	10	41	1346	659	445	365	518	1092	-	35	33	6	-	-	-	1192	405	355	50	240	968		
355	250	180	125	910	240	42	110	12	45	1484	736	470	390	565	1230	-	35	33	6	100	M24	4	1330	460	390	50	275	1280		
400	280	200	140	1020	280	48/38	110/80	14/10	51.5/41	1654	821	520	430	455	915	1370	40	40	8	110	M24	4	1490	515	435	60	305	1831		
450	315	225	160	1150	290	48/42	110/110	14/12	51.5/45	1844	980	570	480	515	1035	1550	40	40	8	130	M30	4	1670	590	485	60	350	2675		
500	355	250	180	1285	325	60/48	140/110	18/14	64/51.5	2075	1075	630	530	575	1160	1735	50	45	8	150	M30	4	1875	660	540	70	385	3597		
560	400	280	200	1440	360	65/55	140/110	18/16	69/59	2270	1185	700	600	650	1290	1940	50	45	8	160	M36	4	2080	730	585	70	430	4915		
630	450	315	225	1620	410	70/60	140/140	20/18	74.5/64	2560	1335	800	680	730	1470	2200	60	52	8	195	M36	4	2360	835	665	80	500	6572		
710	500	355	250	1815	435	80/65	170/140	22/18	85/69	2875	1487	850	730	825	1650	2475	60	52	8	220	M42	4	2635	890	750	80	570	9160		
800	560	400	280	2040	490	95/70	170/140	25/20	100/74.5	3235	1669	960	830	925	1850	2775	70	62	8	240	M42	4	2975	1030	850	100	640	13605		

注：
分子表示 i=100~224 时高速轴端的尺寸；
分母表示 i=250~400 时高速轴端的尺寸。

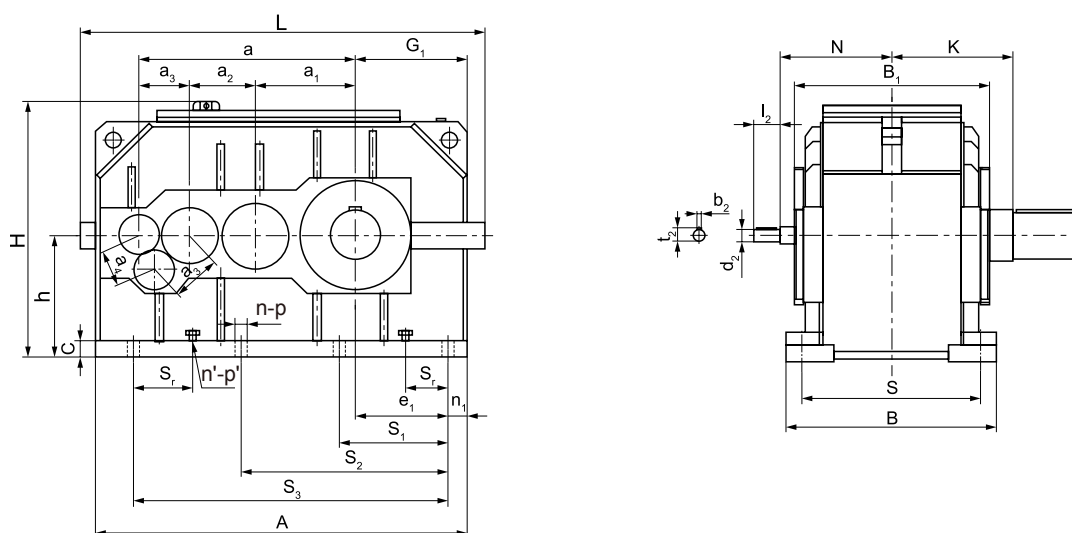
Note:
Numerator denotes the dimension of the high-speed shaft end when i=100~224; denominator denotes the dimension of the high-speed shaft end when i=250~400

外形及安装尺寸

Dimensions Of Gear Units

3.3 QY34D 底座式减速器外形及安装尺寸

3.3 Dimensions of QY34D gear units



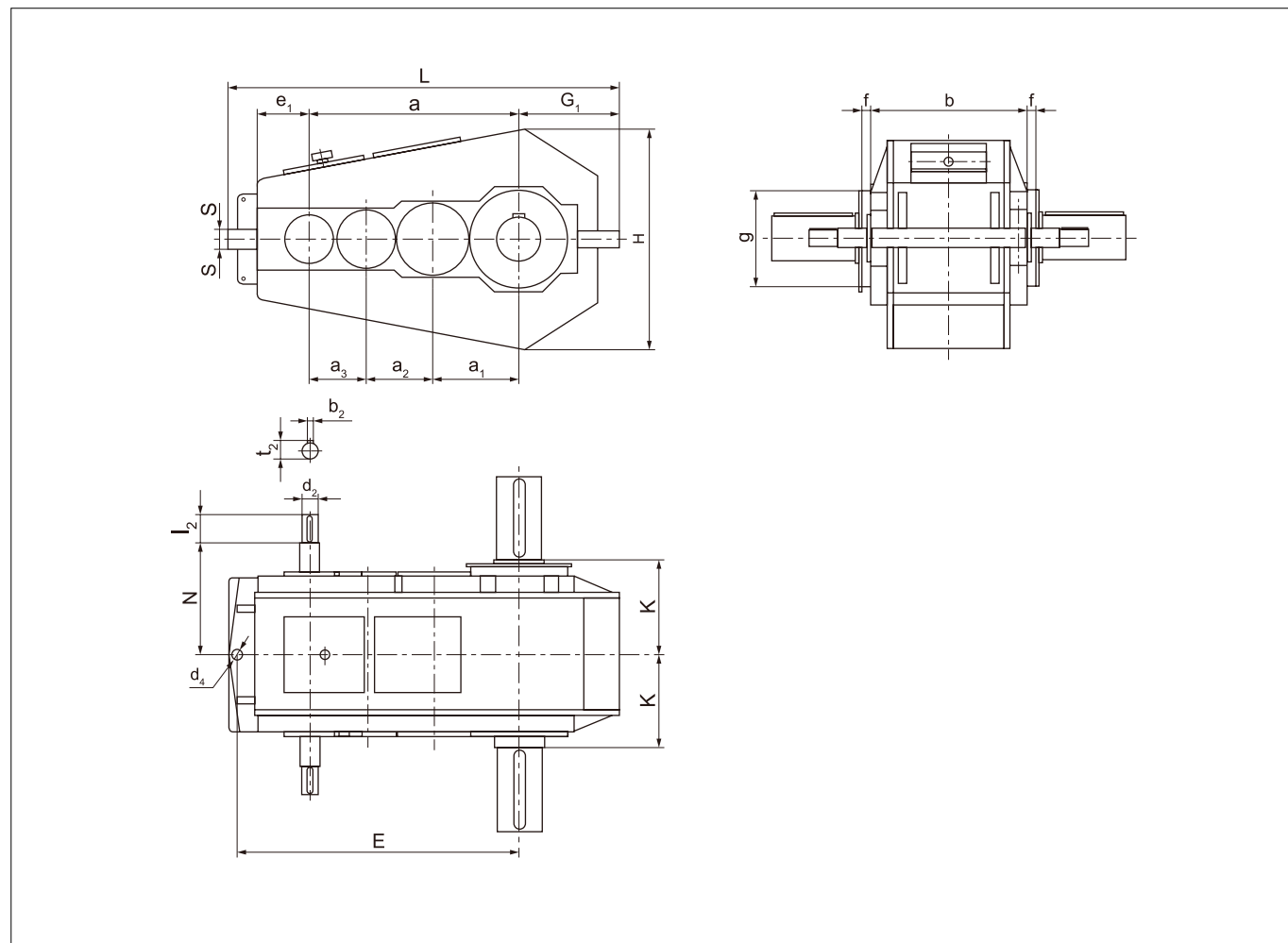
a ₁	h	a ₂	a ₃	a ₄	a	N	高速轴端 High speed shaft end				外形尺寸 Outline dimension			地脚安装尺寸 Mounting dimension							调整螺栓 Adjusting bolt			A	B ₁	G ₁	n ₁	e ₁	重量 weight kg
							i=100~400				L	H	B	S	S ₁	S ₂	S ₃	C	P	n	S _r	p'	n'						
							d ₂ (k6)	l ₂	b ₂	t ₂																			
200	140	100	71	440	160	19	40	6	21.5	780	431	295	235	310	620	-	25	22	6	-	-	-	700	265	225	40	145	272	
225	160	112	80	497	175	24	50	8	27	880	479	320	260	350	700	-	25	22	6	-	-	-	780	290	253	40	163	372	
250	180	125	90	555	195	28	60	8	31	970	524	360	290	390	780	-	30	26	6	-	-	-	870	340	275	45	180	521	
280	200	140	100	620	210	32	80	10	35	1081	579	400	325	435	875	-	30	26	6	-	-	-	965	375	300	45	205	708	
315	225	160	112	700	230	38	80	10	41	1254	659	445	365	500	1000	-	35	33	6	-	-	-	1100	405	355	50	240	965	
355	250	180	125	785	240	42	110	12	45	1384	736	470	390	565	1130	-	35	33	6	160	M24	4	1230	460	390	50	275	1295	
400	280	200	140	880	280	48/38	110/80	14/10	51.5/41	1549	821	520	430	455	845	1265	40	40	8	180	M24	4	1385	515	435	60	305	1813	
450	315	225	160	990	290	48/42	110/110	14/12	51.5/45	1719	980	570	480	500	950	1425	40	40	8	190	M30	4	1545	590	485	60	350	2677	
500	355	250	180	1105	325	60/48	140/110	18/14	64/51.5	1930	1075	630	530	575	1060	1590	50	45	8	225	M30	4	1730	660	540	70	385	3660	
560	400	280	200	1240	360	65/55	140/110	18/16	69/59	2120	1185	700	600	620	1190	1780	50	45	8	110	M36	4	1920	730	585	70	430	4864	
630	450	315	225	1395	410	70/60	140/140	20/18	74.5/64	2375	1335	800	680	690	1350	2015	60	52	8	120	M36	4	2175	835	665	80	500	6740	
710	500	355	250	1565	435	80/65	170/140	22/18	85/69	2670	1487	850	730	755	1515	2270	60	52	8	350 (220)	M42	4	2430	890	750	80	570	8980	
800	560	400	280	1760	490	95/70	170/140	25/20	100/74.5	2995	1669	960	830	845	1690	2535	70	62	8	380 (240)	M42	4	2435	1030	850	100	640	12976	

注：
分子表示 i=100~224 时高速轴端的尺寸；
分母表示 i=250~400 时高速轴端的尺寸。

Note:
Numerator denotes the dimension of the high-speed shaft end when i=100~224; denominator denotes the dimension of the high-speed shaft end when i=250~400

3.4 QY3S 三支点减速器外形及安装尺寸

3.4 Dimensions of QY3S gear units



名义中心距 Nominal center distance a ₁	a ₂	a ₃	a	N	高速轴端 High speed shaft end				L	H	b ⁰ _{-0.5}	f ^{+0.1} ₀	g (h9)	d ₄	E (js14)	S	G ₁	e ₁	k	重量 weight kg
					i=16~90															
					d ₂ (k6)	l ₂	b ₂	t ₂												
160	112	80	352	135	24	50	8	27	670	314	250	18	190	22	457	20	183	60	185	158
180	125	90	395	145	28	60	8	31	740	354	270	20	220	22	505	20	205	65	195	204
200	140	100	440	160	32	80	10	35	825	394	285	20	240	26	565	25	225	80	215	260
225	160	112	497	175	38	80	10	41	925	434	320	20	260	26	637	25	253	86	230	352
250	180	125	555	195	42	110	12	45	1020	482	360	25	270	33	705	30	275	96	255	477
280	200	140	620	210	48	110	14	51.5	1128	534	385	25	320	33	780	30	300	101	270	637
315	225	160	700	230	48/42	110/110	14/12	51.5/45	1302	622	425	25	340	40	890	35	355	118	310	876
355	250	180	785	240	60/48	140/110	18/14	64/51.5	1432	696	470	30	390	40	985	35	390	128	335	1174
400	280	200	880	280	65/55	140/110	18/16	69/59	1602	780	535	30	440	45	1105	40	435	148	375	1680
450	315	225	990	290	70/60	140/140	20/18	74.5/64	1772	880	600	40	520	45	1225	40	485	155	415	2402
500	355	250	1105	325	80/65	170/140	22/18	85/69	1990	970	660	40	600	52	1375	45	540	180	450	3275
560	400	280	1240	360	95/75	170/140	25/20	100/79.5	2185	1070	730	40	640	52	1525	45	585	192	510	4434
630	450	315	1395	410	110/85	210/170	28/22	116/90	2445	1240	815	50	640	62	1700	50	665	212	565	6105
710	500	355	1565	435	120/90	210/170	32/25	127/95	2735	1392	880	50	680	62	1900	60	750	229	600	8168
800	560	400	1760	490	140/100	250/210	36/28	148/106	3075	1580	985	60	800	70	2125	60	850	249	670	11656

注：
分子表示 $i=16\sim56$ 时高速轴端的尺寸；
分母表示 $i=63\sim90$ 时高速轴端的尺寸。

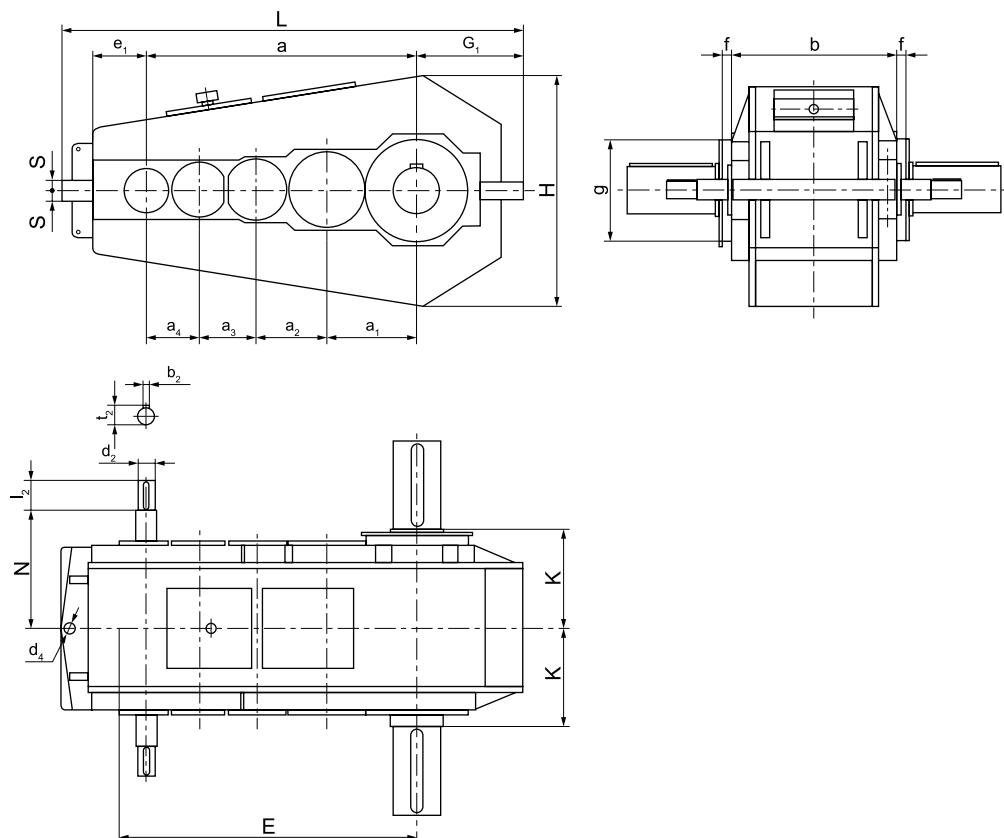
Note:
Numerator indicates the dimension of the high-speed shaft end when $i=16\sim56$;
denominator indicates the dimension of the high-speed shaft end when $i=63\sim90$

外形及安装尺寸

Dimensions Of Gear Units

3.5 QY4S 三支点减速器外形及安装尺寸

3.5 Dimensions of QY4S gear units



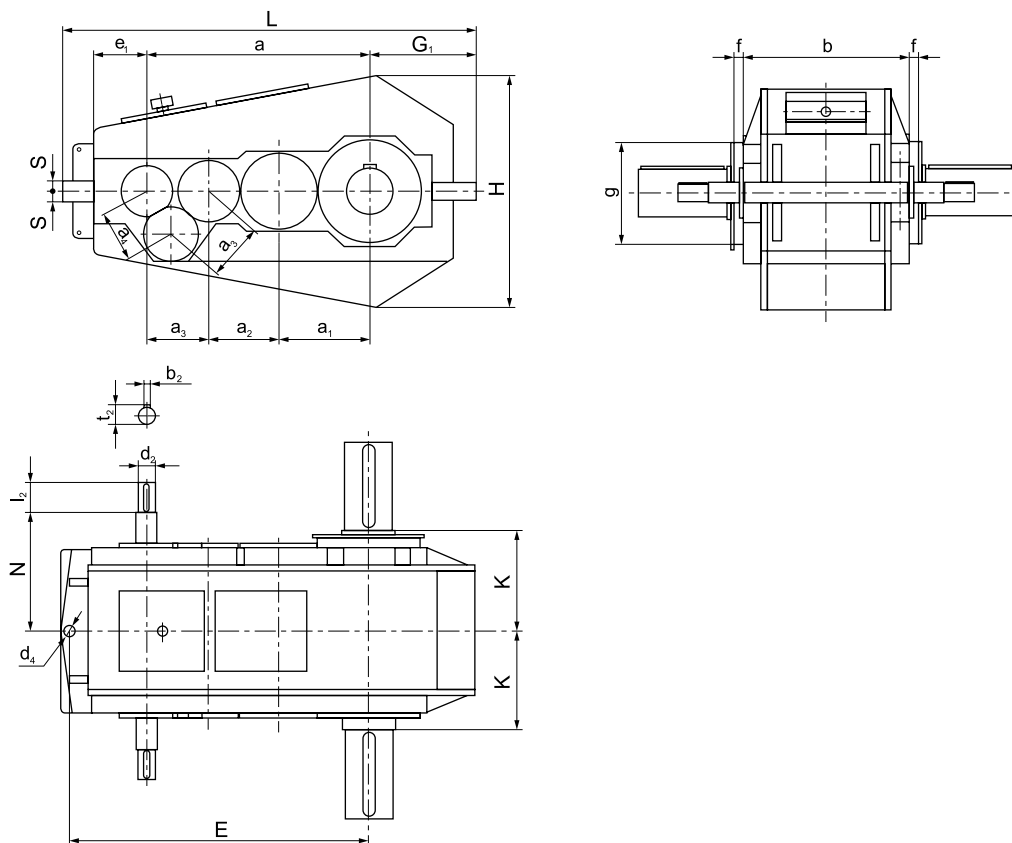
名义中心距 Nominal center distance a ₁	a ₂	a ₃	a ₄	a	N	高速轴端 High speed shaft end				L	H	b ⁰ _{-0.5}	f ^{+0.1} ₀	g (h9)	d ₄	E (js14)	S	G ₁	e ₁	k	重量 weight kg
						i=100~400															
						d ₂ (k6)	l ₂	b ₂	t ₂												
200	140	100	71	511	160	19	40	6	21.5	875	394	285	20	240	26	616	25	225	60	215	266
225	160	112	80	577	175	24	50	8	27	990	434	320	20	260	26	702	25	253	71	230	363
250	180	125	90	645	195	28	60	8	31	1085	482	360	25	270	33	770	30	275	71	255	493
280	200	140	100	720	210	32	80	10	35	1203	534	385	25	320	33	855	30	300	76	270	660
315	225	160	112	812	230	38	80	10	41	1394	622	425	25	340	40	982	35	355	98	310	913
355	250	180	125	910	240	42	110	12	45	1532	696	470	30	390	40	1085	35	390	103	335	1217
400	280	200	140	1020	280	48/38	110/80	14/10	51.5/41	1707	780	535	30	440	45	1210	40	435	113	375	1762
450	315	225	160	1150	290	48/42	110/110	14/12	51.5/45	1897	880	600	40	520	45	1350	40	485	120	415	2482
500	355	250	180	1285	325	60/48	140/110	18/14	64/51.5	2135	970	660	40	600	52	1520	45	540	145	450	3380
560	400	280	200	1440	360	65/55	140/110	18/16	69/59	2345	1070	730	40	640	52	1685	45	585	152	510	4571
630	450	315	225	1620	410	70/60	140/140	20/18	74.5/64	2630	1240	815	50	640	62	1885	50	665	172	565	6375
710	500	355	250	1815	435	80/65	170/140	22/18	85/69	2940	1392	880	50	680	62	2105	60	750	184	600	8468
800	560	400	280	2040	490	95/70	170/140	25/20	100/74.5	3315	1580	985	60	800	70	2365	60	850	209	670	12066

注：
分子表示 $i=100\sim224$ 时高速轴端的尺寸；
分母表示 $i=250\sim400$ 时高速轴端的尺寸。

Note:
Numerator indicates the dimension of the high-speed shaft end when $i=100\sim224$;
denominator indicates the dimension of the high-speed shaft end when $i=250\sim400$

3.6 QY34S 三支点减速器外形及安装尺寸

3.6 Dimensions of QY34S gear units



名义中心距 Nominal center distance a ₁	a ₂	a ₃	a ₄	a	N	高速轴端 High speed shaft end				L	H	b ⁰ _{-0.5}	f ^{+0.1} ₀	g (h9)	d ₄	E (js14)	S	G ₁	e ₁	k	重量 weight kg
						i=100~400															
						d ₂ (k6)	l ₂	b ₂	t ₂												
200	140	100	71	440	160	19	40	6	21.5	825	394	285	20	240	26	565	25	225	80	215	271
225	160	112	80	497	175	24	50	8	27	925	434	320	20	260	26	637	25	253	86	230	364
250	180	125	90	555	195	28	60	8	31	1020	482	360	25	270	33	705	30	275	96	255	494
280	200	140	100	620	210	32	80	10	35	1128	534	385	25	320	33	780	30	300	101	270	663
315	225	160	112	700	230	38	80	10	41	1302	622	425	25	340	40	890	35	355	118	310	916
355	250	180	125	785	240	42	110	12	45	1432	696	470	30	390	40	985	35	390	128	335	1220
400	280	200	140	880	280	48/38	110/80	14/10	51.5/41	1602	780	535	30	440	45	1105	40	435	148	375	1760
450	315	225	160	990	290	48/42	110/110	14/12	51.5/45	1772	880	600	40	520	45	1225	40	485	155	415	2502
500	355	250	180	1105	325	60/48	140/110	18/14	64/51.5	1990	970	660	40	600	52	1375	45	540	180	450	3393
560	400	280	200	1240	360	65/55	140/110	18/16	69/59	2185	1070	730	40	640	52	1525	45	585	192	510	4708
630	450	315	225	1395	410	70/60	140/140	20/18	74.5/64	2445	1240	815	50	640	62	1700	50	665	212	565	6293
710	500	355	250	1565	435	80/65	170/140	22/18	85/69	2735	1392	880	50	680	62	1900	60	750	229	600	8502
800	560	400	280	1760	490	95/70	170/140	25/20	100/74.5	3075	1580	985	60	800	70	2125	60	850	249	670	12124

注：
分子表示 $i=100\sim224$ 时高速轴端的尺寸；
分母表示 $i=250\sim400$ 时高速轴端的尺寸。

Note:
Numerator indicates the dimension of the high-speed shaft end when $i=100\sim224$;
denominator indicates the dimension of the high-speed shaft end when $i=250\sim400$

宁波东力传动设备有限公司
NINGBO DONLY TRANSMISSION EQUIPMENT CO.,LTD.

地址：宁波市江北区银海路1号

Add: No.1 Yinhai Road, Jiangbei, Ningbo

电话 Tel: +86-574-8839 8888

传真 Fax: +86-574-8839 8999

服务热线 C.S.HL: 400-168-6666

邮编 P.C.: 315033

Http: //www.donly.com.cn

