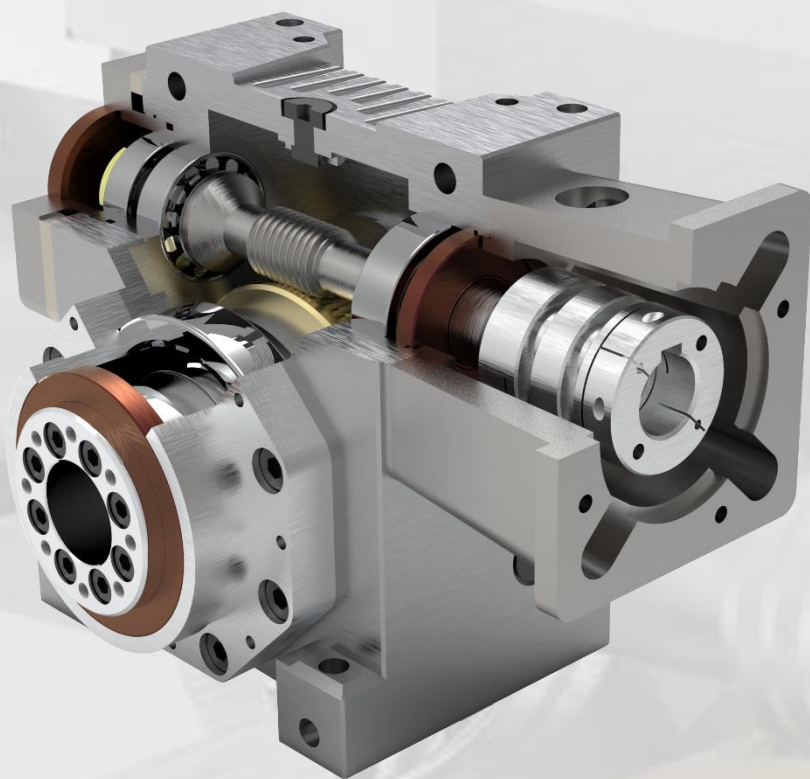




一弧分·选型
1 arcminute



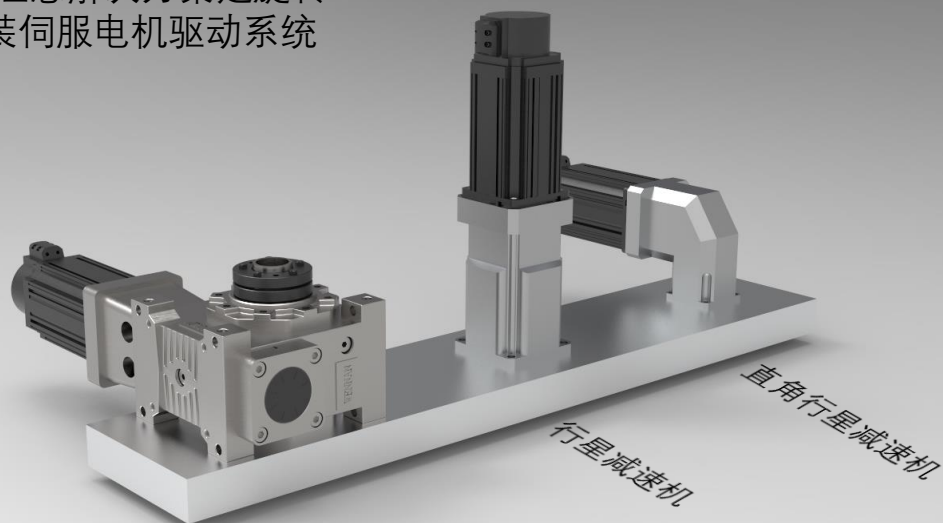
高精度双导程蜗轮蜗杆减速机
回转间隙最高可达0.5弧分



高精度双导程蜗轮蜗杆减速机

High-precision double lead worm gear reducer

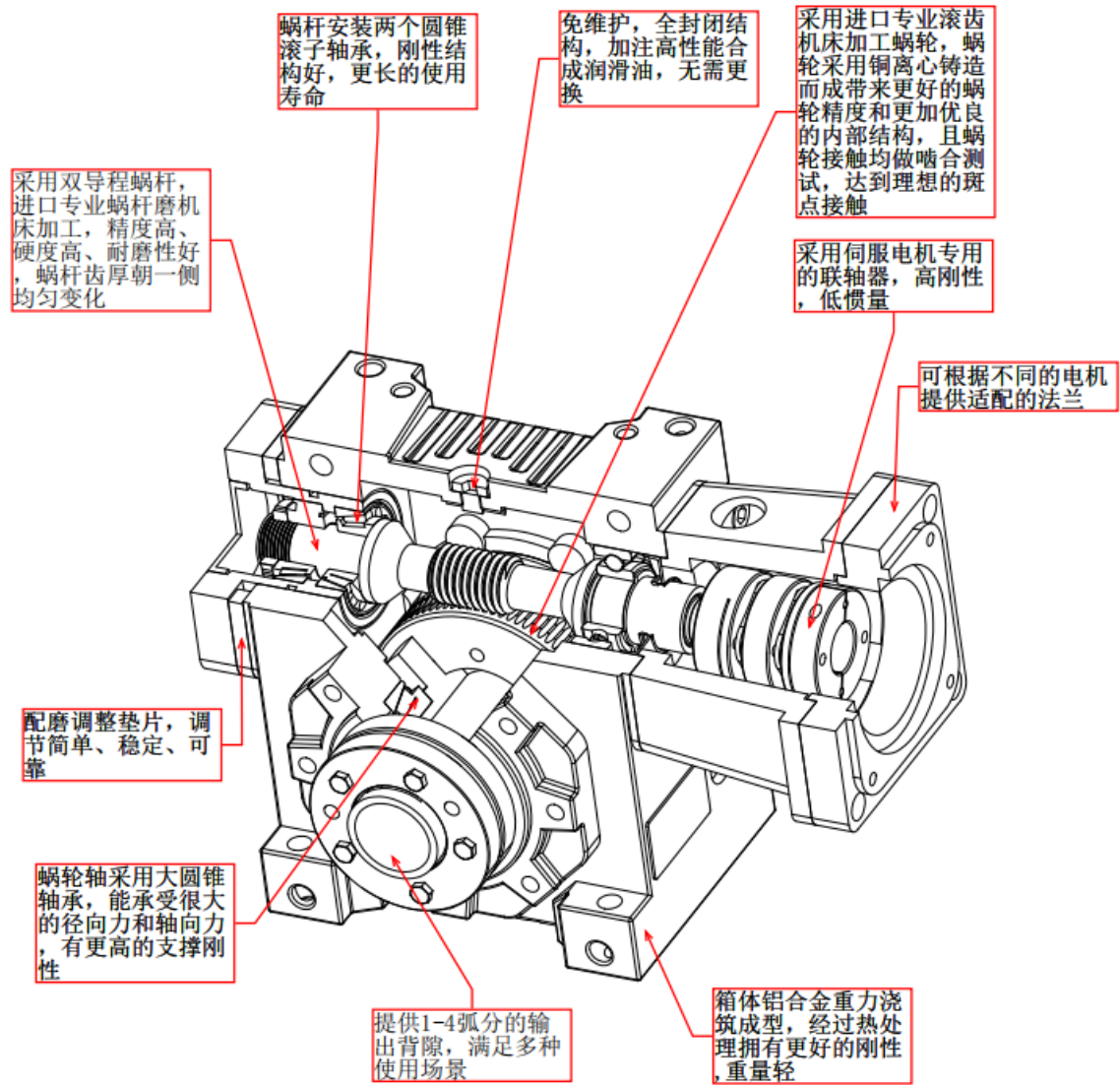
设计者的理想解决方案是旋转
90°来安装伺服电机驱动系统



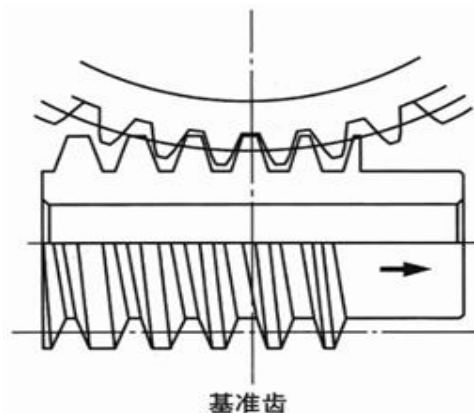
减速机可以串联由一个电机驱动，
从而实现多个蜗轮同步输出

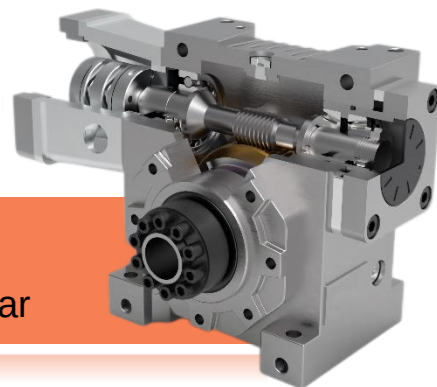


高精度双导程蜗轮蜗杆减速机



双导程蜗轮蜗杆啮合结构





双导程蜗轮蜗杆减速机特点

Characteristics of Double Lead Worm Gear

传动精度高、分度精度高、定位精度高，可靠性强，经济、实用

High transmission accuracy, high indexing accuracy, high positioning accuracy, strong reliability, economy, and practicality

啮合间隙小,有利于提高数控回转工作台的分度精度

Small meshing clearance is beneficial for improving the indexing accuracy of CNC rotary worktables

齿隙调节准确,方便可靠

Accurate backlash adjustment, convenient and reliable

结构紧凑，传动比大，噪音小，承载力高

Compact structure, high transmission ratio, low noise, and high load-bearing capacity

双导程蜗轮蜗杆减速机适用场景

Applicable scenarios for double lead worm gear reducers

精密分度装置 Precision indexing device

- 数控机床、流水线、切割机、输送线等。
- 分度装置、读数机构等要求运动准确的场合。
- CNC machine tools, assembly lines, cutting machines, conveyor lines, etc.
- In situations where accurate movement is required, such as indexing devices and reading mechanisms.

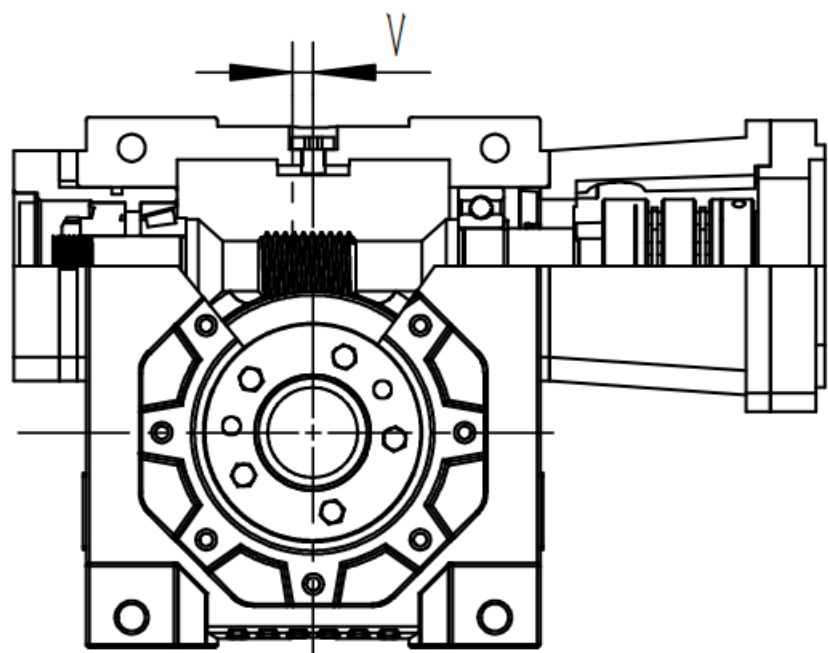
高精度回转运动 High precision rotary motion

- 减少由负载变动及切削力变化等引起的震动及噪音。
- 减少由正反转引起的冲击及噪音。
- 减少由以上引起的蜗轮加剧磨损。
- 增加蜗轮输出的响应速度。
- Reduce vibration and noise caused by changes in load and cutting force.
- Reduce impact and noise caused by forward and reverse rotation.
- Reduce the increased wear of the worm gear caused by the above.
- Increase the response speed of the worm gear output.

速度有变化的场合 Precision indexing When there is a change in speed

- 减少由速度变化引起的冲击及噪音。
- 减少由速度变化引起的蜗轮加剧磨损。
- Reduce impact and noise caused by speed changes.
- Reduce worm gear wear caused by speed changes.

间隙调整量Gap adjustment amount



中心距	调整距离V	调整量系数Ks	间隙调整量
25	5	0.015-0.02	0.075-0.1
35	5	0.015-0.02	0.075-0.11
45	6	0.015-0.02	0.09-0.12
50	6	0.015-0.02	0.09-0.12
55	6	0.015-0.02	0.09-0.12
63	6	0.015-0.02	0.09-0.12
75	6	0.015-0.02	0.09-0.12
90	6	0.015-0.02	0.09-0.12
110	8	0.015-0.02	0.12-0.16
125	10	0.015-0.02	0.15-0.2

单位:mm

减速机出厂前均由专业技术人员按照要求调整好背隙

选型方法 Selection method

T1B (Nm):
电机额定扭矩
T2B (Nm):
电机加速扭矩
Tc1(Nm):
计算减速机输出额定扭矩
Tc2(Nm):
计算减速机输出加速扭矩
Ta1(Nm):
额定输出扭矩
Ta2(Nm):
额定输出加速扭矩
Fr(N):
输出轴允许径向负载力
Fa(N):
输出轴允许轴向负载力
n1(rpm):
电机输出转速
n2(rpm):
减速机输出转速
i:
减速比
f:
工作系数
η:
效率
P1(KW):
电机输入额定功率

S5:启动/停止作业

S1:连续作业

计算减速机输出的
加速扭矩

计算减速机输出的
额定扭矩

$Tc2 = T2B * i * \eta * f1 * f2$
f1, f2如下表:

$Tc1 = T1B * i * \eta$

一个完整周期内减速机运转时间					
	10%	20%	45%	75%	90%
f1	0.72	0.86	0.98	1.13	1.2
每小时启停次数					
f2	1000-2000	2000-3000	3000-5000		
	1-1.35	1.35-1.45	1.35-1.45		

在技术参数表Ta2栏选
择对应的减速机型号

在技术参数表Ta2栏选
择对应的减速机型号

$Tc2 < Ta2$

$Tc1 < Ta1$

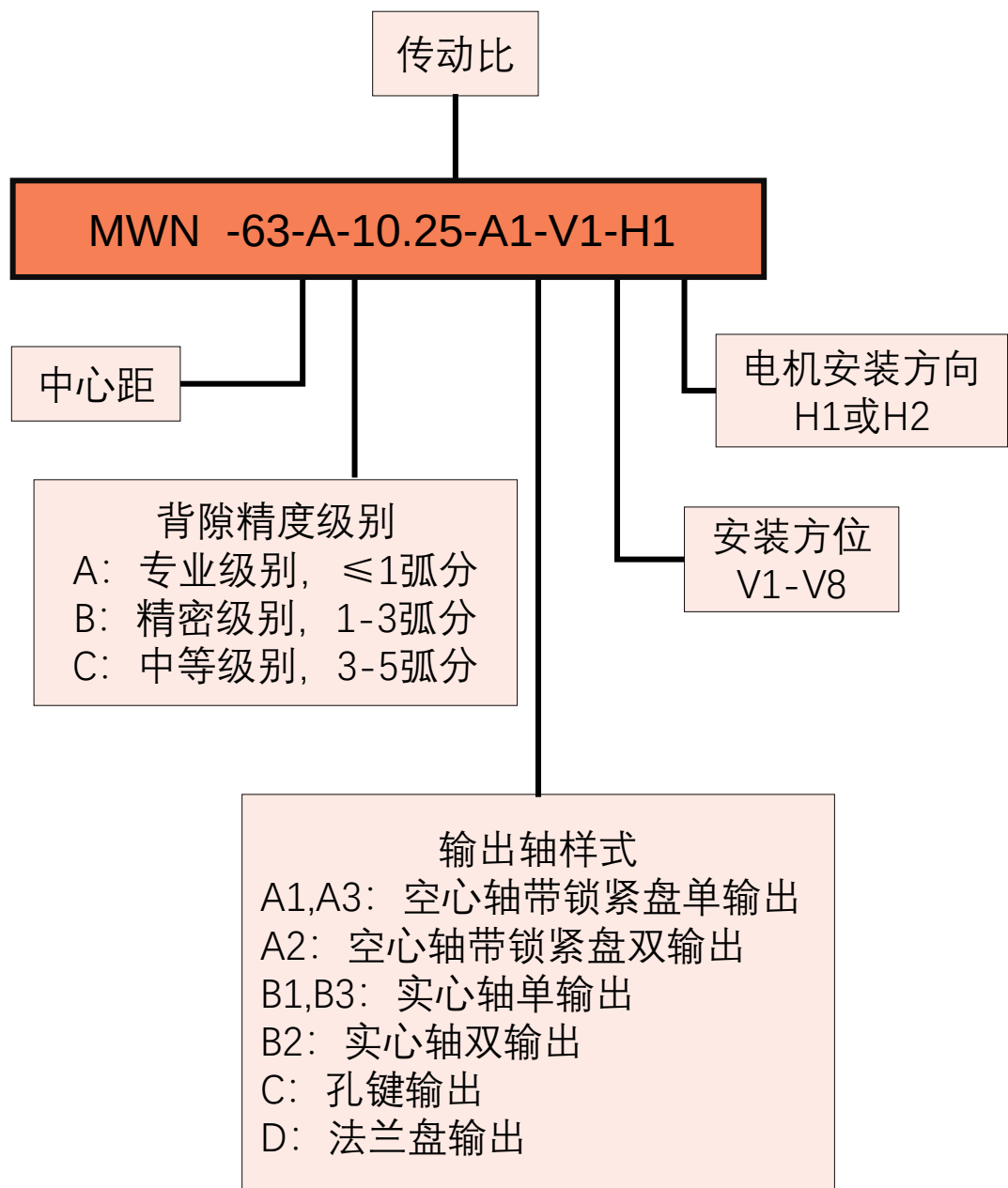
技术规格 Technical specifications

n1		4000			3000			2000			1000				
a	i	Ta1	Ta2	η	Ta1	Ta2	η	Ta1	Ta2	η	Ta1	Ta2	η	Fr	Fa
25	5.2	8	13	88	9	15	87	11	18	86	14	23	84	1500	500
	7.25	8	14	87	9	15	86	11	18	85	14	24	82	1500	500
	10.25	8	13	86	8	14	85	11	18	84	14	23	81	1500	500
	14.5	9	15	81	11	18	79	12	20	77	16	26	74	1500	500
	19.5	9	15	78	11	18	76	12	20	74	16	26	70	1500	500
	30	11	18	70	12	20	68	14	23	65	17	29	60	1500	500
	45	11	18	64	11	19	62	14	23	59	17	28	53	1500	500
	60	10	16	59	11	19	56	13	21	53	15	25	48	1500	500
35	5.2	16	27	93	18	31	92	22	36	91	29	48	89	3800	2800
	7.25	17	28	91	19	32	90	23	37	89	30	48	86	3800	2800
	10.25	17	29	89	20	34	88	23	39	87	30	51	81	3800	2800
	14.5	19	31	85	22	35	83	26	41	81	33	52	77	3800	2800
	19.5	20	32	82	22	35	80	26	42	78	33	50	73	3800	2800
	30	23	37	74	25	40	72	29	46	69	36	58	63	3800	2800
	45	23	36	68	25	40	65	28	45	61	35	56	56	3800	2800
	60	22	34	62	24	37	59	27	41	55	34	50	50	3800	2800
	90	21	32	53	23	35	50	26	39	46	32	46	41	3800	2800
45	5.2	36	62	94	41	70	93	50	83	92	67	109	91	5800	4000
	7.25	42	71	93	48	80	92	57	93	91	76	121	89	5800	4000
	10.25	46	80	92	53	88	91	62	98	90	80	128	88	5800	4000
	14.5	52	83	88	59	94	87	68	109	86	88	141	82	5800	4000
	19.5	50	80	87	55	88	86	64	102	84	81	129	80	5800	4000
	30	55	88	80	61	98	78	70	112	76	88	141	71	5800	4000
	45	54	86	75	59	94	72	68	109	69	83	133	64	5800	4000
	60	50	78	70	55	86	68	62	97	64	75	116	59	5800	4000
	90	46	71	62	50	76	59	57	86	56	68	99	50	5800	4000
50	5.2	60	103	94	68	116	94	82	135	90	110	180	92	6400	4400
	7.25	65	111	92	73	124	90	90	140	90	117	187	87	6400	4400
	10.25	61	112	92	70	118	90	81	132	89	106	170	86	6400	4400
	14.5	70	113	86	85	135	88	98	153	81	123	187	80	6400	4400
	19.5	77	125	86	86	136	87	128	207	83	125	208	80	6400	4400
	30	71	105	80	76	123	78	90	139	75	109	171	70	6400	4400
	45	82	128	74	93	145	72	105	162	68	131	201	63	6400	4400
	60	70	103	70	77	113	67	81	101	63	100	154	59	6400	4400
	90	62	101	62	76	101	59	73	100	55	89	133	49	6400	4400
55	5.2	60	103	94	68	116	94	82	137	93	111	181	91	7000	4800
	7.25	65	111	93	74	125	92	90	147	91	118	89	89	7000	4800
	10.25	76	132	90	87	145	89	103	165	88	133	206	85	7000	4800
	14.5	71	115	88	82	133	87	96	155	85	123	190	82	7000	4800
	19.5	77	123	87	87	139	85	101	162	83	128	205	80	7000	4800
	30	83	130	80	94	148	78	109	169	75	136	202	70	7000	4800
	45	83	130	74	93	145	72	106	163	69	131	202	63	7000	4800
	60	82	128	69	91	141	67	103	158	63	126	194	58	7000	4800
	90	76	117	62	82	125	59	94	142	55	113	164	49	7000	4800

技术规格 Technical specifications

n1		4000			3000			2000			1000				
a	i	Ta1	Ta2	η	Ta1	Ta2	η	Ta1	Ta2	η	Ta1	Ta2	η	Fr	Fa
63	5.2	90	153	95	105	179	94	126	210	93	169	275	91	8800	8500
	7.25	91	155	94	103	174	93	125	206	92	165	264	90	8800	8500
	10.25	103	169	93	118	194	92	141	231	91	181	290	89	8800	8500
	14.5	110	179	90	128	207	89	149	240	87	191	293	84	8800	8500
	19.5	119	190	88	135	235	87	156	250	85	199	318	82	8800	8500
	30	138	218	82	155	245	80	179	281	78	263	335	73	8800	8500
	40	124	214	75	156	239	72	193	287	66	262	300	68	8800	8500
	45	123	193	77	137	214	75	156	239	72	193	287	67	8800	8500
	60	121	189	73	134	205	76	151	233	67	186	288	62	8800	8500
	90	110	169	65	121	184	63	137	207	59	166	241	53	8800	8500
75	5.2	147	252	95	174	296	94	209	349	94	282	459	92	10500	10500
	7.25	139	236	94	161	270	93	196	321	92	256	409	90	10500	10500
	10.25	146	234	93	168	269	92	204	326	91	261	418	88	10500	10500
	14.5	170	276	90	195	315	88	234	376	87	298	460	84	10500	10500
	19.5	168	270	88	194	310	87	227	362	85	288	434	81	10500	10500
	30	186	294	84	212	334	82	248	386	80	309	465	75	10500	10500
	45	190	299	76	212	331	74	244	383	71	301	472	65	10500	10500
	60	175	272	72	195	300	69	221	334	66	272	395	60	10500	10500
	90	167	257	64	184	280	62	209	316	57	255	370	52	10500	10500
90	5.2	227	387	95	271	460	95	327	546	94	445	725	92	15800	13000
	7.25	263	460	95	306	490	95	373	597	94	490	784	92	15800	13000
	10.25	273	478	94	314	528	93	383	627	92	488	781	90	15800	13000
	14.5	272	444	91	314	504	90	380	612	88	486	748	85	15800	13000
	19.5	318	506	90	367	584	88	431	685	87	544	865	84	15800	13000
	30	316	500	84	362	572	82	424	661	80	531	792	75	15800	13000
	45	343	538	80	385	599	79	441	674	76	546	811	71	15800	13000
	60	328	512	77	364	559	75	412	622	72	507	761	67	15800	13000
	90	298	459	70	332	505	68	372	562	64	460	667	59	15800	13000
110	5.2	390	666	95	458	779	95	561	937	94	760	1239	92	21500	16000
	7.25	417	680	95	488	795	95	599	976	94	802	1307	92	21500	16000
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	14.5	450	720	92	519	830	91	630	1014	90	810	1247	87	21500	16000
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	90	497	765	72	557	847	70	625	944	66	778	1128	60	21500	16000
125	5.2	609	1005	96	716	1181	96	884	1459	95	1217	2008	94	13600	12000
	7.25	632	1043	96	742	1224	95	907	1497	95	1208	1993	93	15000	15000
	10.25	622	1026	95	725	1196	95	887	1464	94	1147	1893	92	16700	18000
	14.5	542	894	93	625	1031	92	759	1252	91	972	1604	89	18900	22000
	19.5	759	1252	92	877	1447	91	1043	1721	89	1320	2178	87	20600	22000
	30	634	1046	88	731	1206	87	861	1421	85	1079	1780	81	22900	22000
	45	833	1374	84	952	1571	82	1104	1822	80	1369	2259	75	26000	22000
	60	713	1176	79	815	1345	77	929	1533	74	1150	1898	69	28000	22000
	90	598	987	71	680	1122	68	779	1285	64	960	1584	58	32000	22000

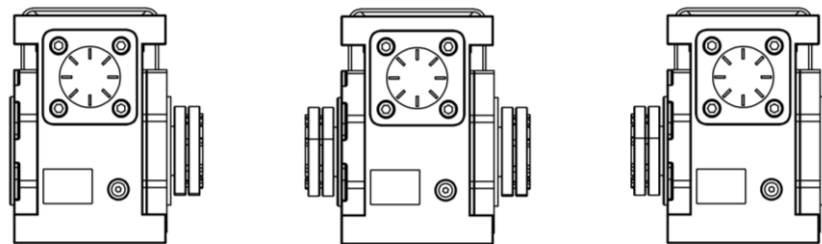
使用以下编号订购 Order using the following number



电机适配法兰需提供电机安装尺寸

输出轴样式Output Axis Style

**空心轴
带锁紧盘输出**
Hollow shaft with
locking disc output

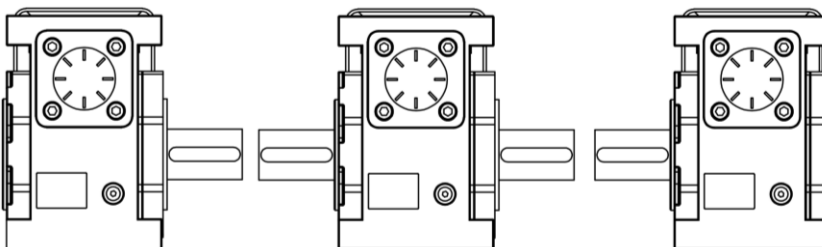


A1

A2

A3

**实心轴
单/双输出**
Solid shaft
single/dual output

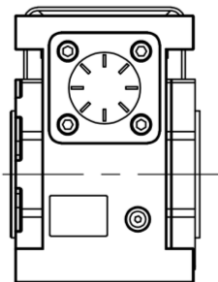


B1

B2

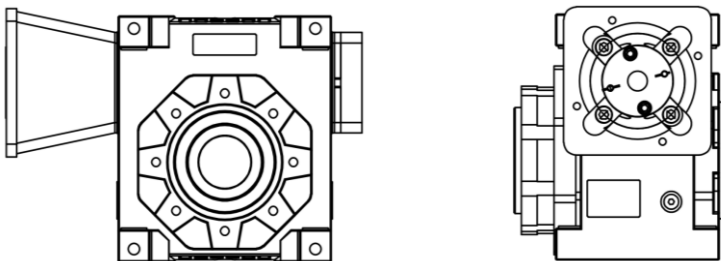
B3

孔键输出
Keyhole output



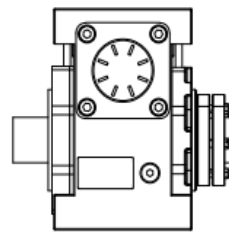
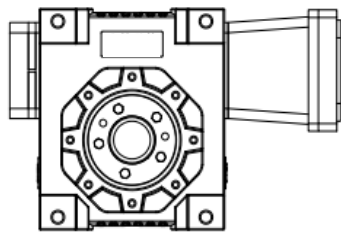
C

法兰盘输出
Flange output

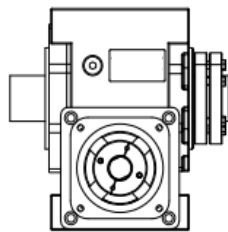
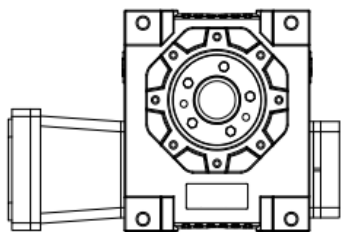


D

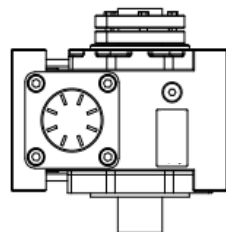
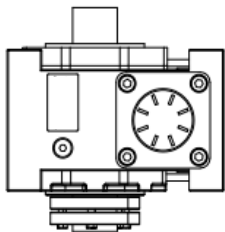
减速机安装方位Installation direction of reducer



V1

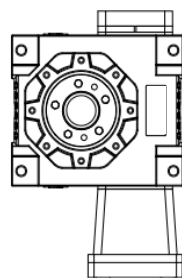
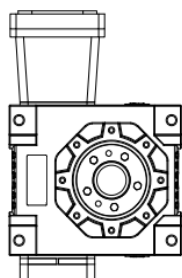


V2



V3

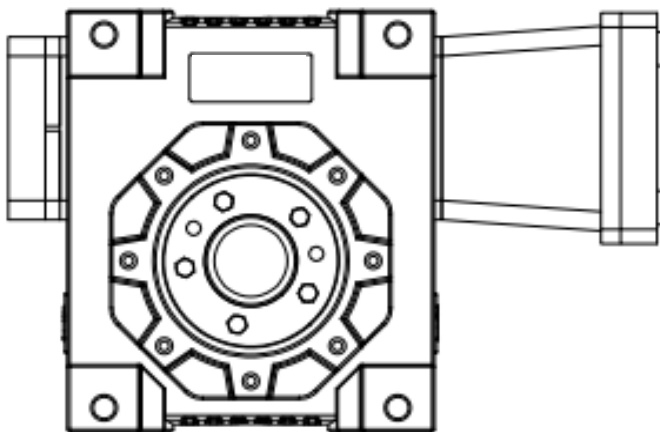
V4



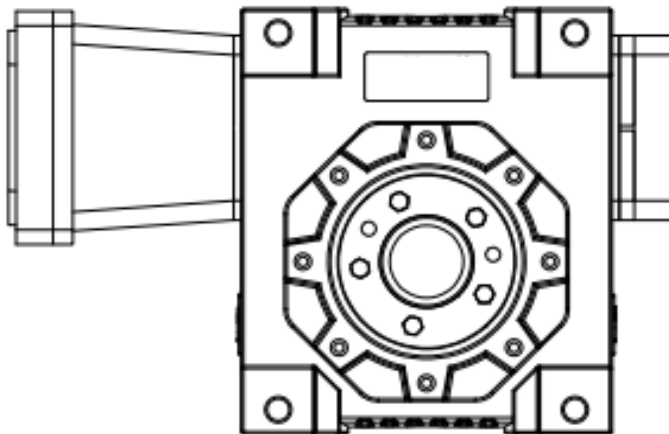
V5

V6

电机安装以及输出方位Motor installation and output orientation

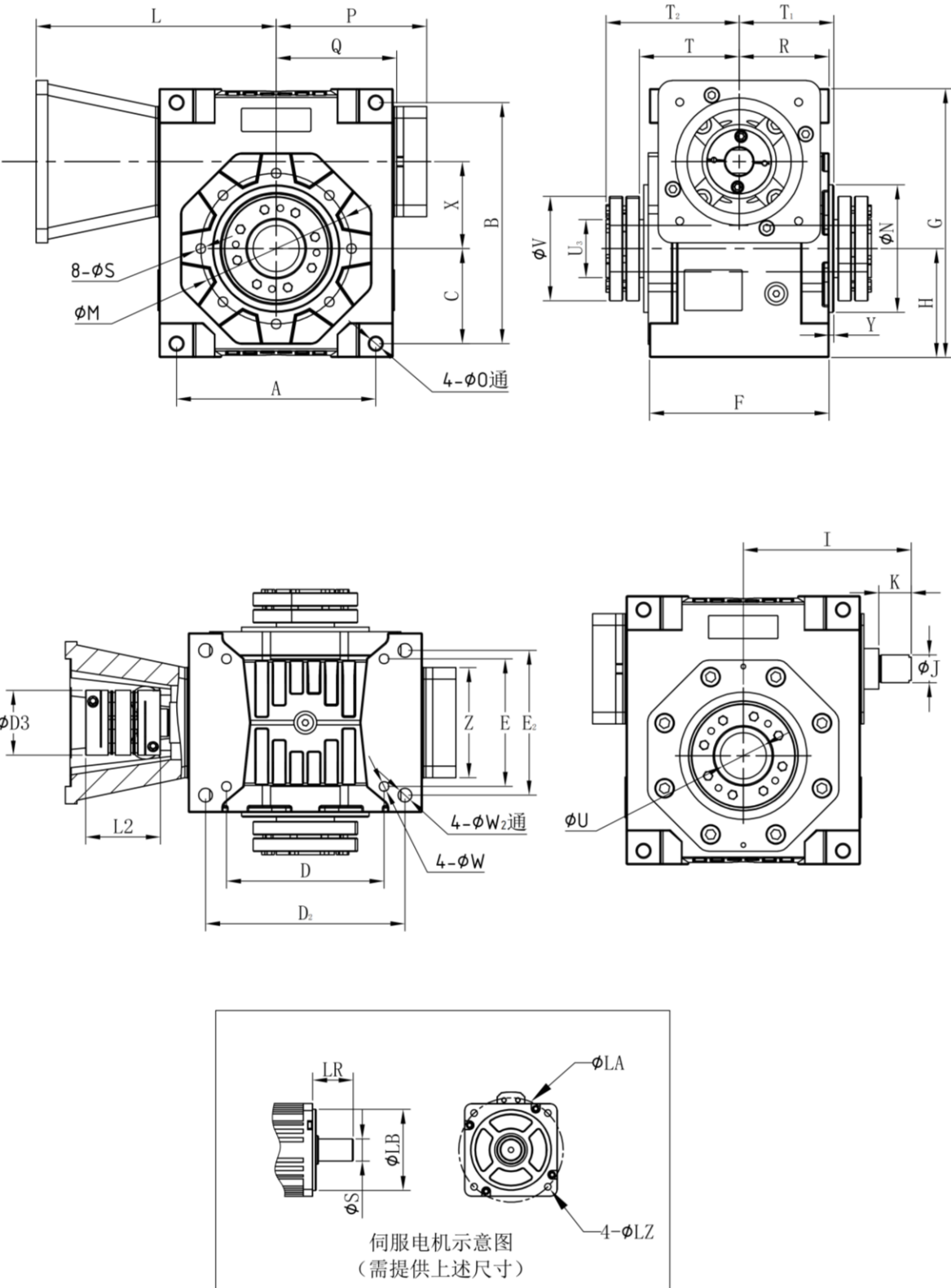


H1



H2

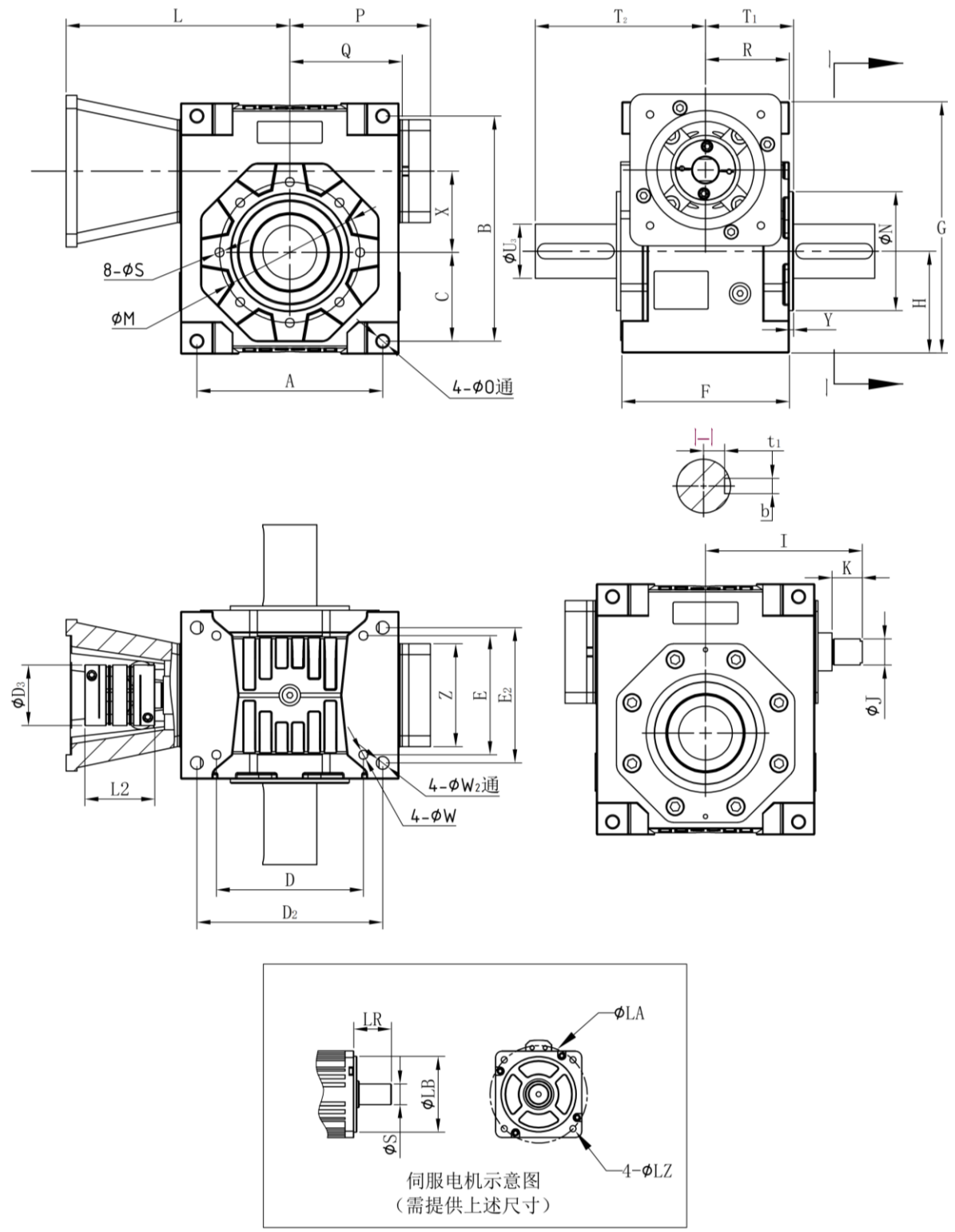
空心轴带锁紧盘输出Hollow shaft with locking disc output



空心轴带锁紧盘输出Hollow shaft with locking disc output

	25	35	45	50	55	63	75	90	110	125
A	66	86	108	108	120	134	172	186	220	214
B	84	110	135	138	155	173	208	234	276	302
C	33	44.5	53	53	61	66	82	91	108	107
D	49.5	62	81	81	90	98	136	141	175	214
D3	26	39	44	44	44	44	56	56	68	82
E	44	56	68	68	78	91	110	130	140	140
F	64	86	100	98.5	112	127	155	170	182	180
G	96	126	153	156	175	197	232	264	306	360
H	39	52.5	62	62	71	78	94	106	123	135
I Maxi	61	84	104	104.5	116	127.5	151	165.5	183	203.25
I mini	57	79	98	98.5	110	119.5	145	159.5	175	193.25
J(h6)	9	12	15	15	18	20	24	28	32	35
K	15	17	20	21	24	28	28	28	36	45
L	77	105	134.5	137.5	151	164	207	221.5	214	305
L2	35	50	50	50	50	50	65	65	65	98
M	65	65	85	85	100	115	130	165	200	185
N(h7)	55	50	70	70	80	95	110	130	165	160
O	6	7	9	9	9	11	11	13	13	17
P(Maxi)	56	71	86.5	89.5	99	108	130	138.5	160	179
Q	42	55	67.5	70.5	78	84	104	114.5	132	135
R	32	43	50	48.5	56	63.5	77.5	85	91	90
S	M5	M6	M8	M8	M8	M8	M10	M12	M12	M16
T	36	46.5	53.5	50.5	60.5	72	82.5	90	98	117
T1	35	46	53	50	59.5	67	81.5	89	96	115
T2	51	70	79.5	73	88	94.5	114	124	133	157
U(H7)	14	20	25	25	30	35	40	50	60	65
U3	16	24	30	30	36	44	50	68	80	80
V	41	50	60	60	72	80	90	115	145	145
W	M5	M6	M8	M8	M8	M10	M10	M12	M12	M16
X	25	35	45	50	55	63	75	90	110	125
Y	3	3	3	1.5	3	3.5	4	4	5	4
Z	50	58	64	70	76	93	95	115	115	128
D2	-	-	114	114	125	134	172	204	-	-
E2	-	-	84	84	96	144	125	140	-	-

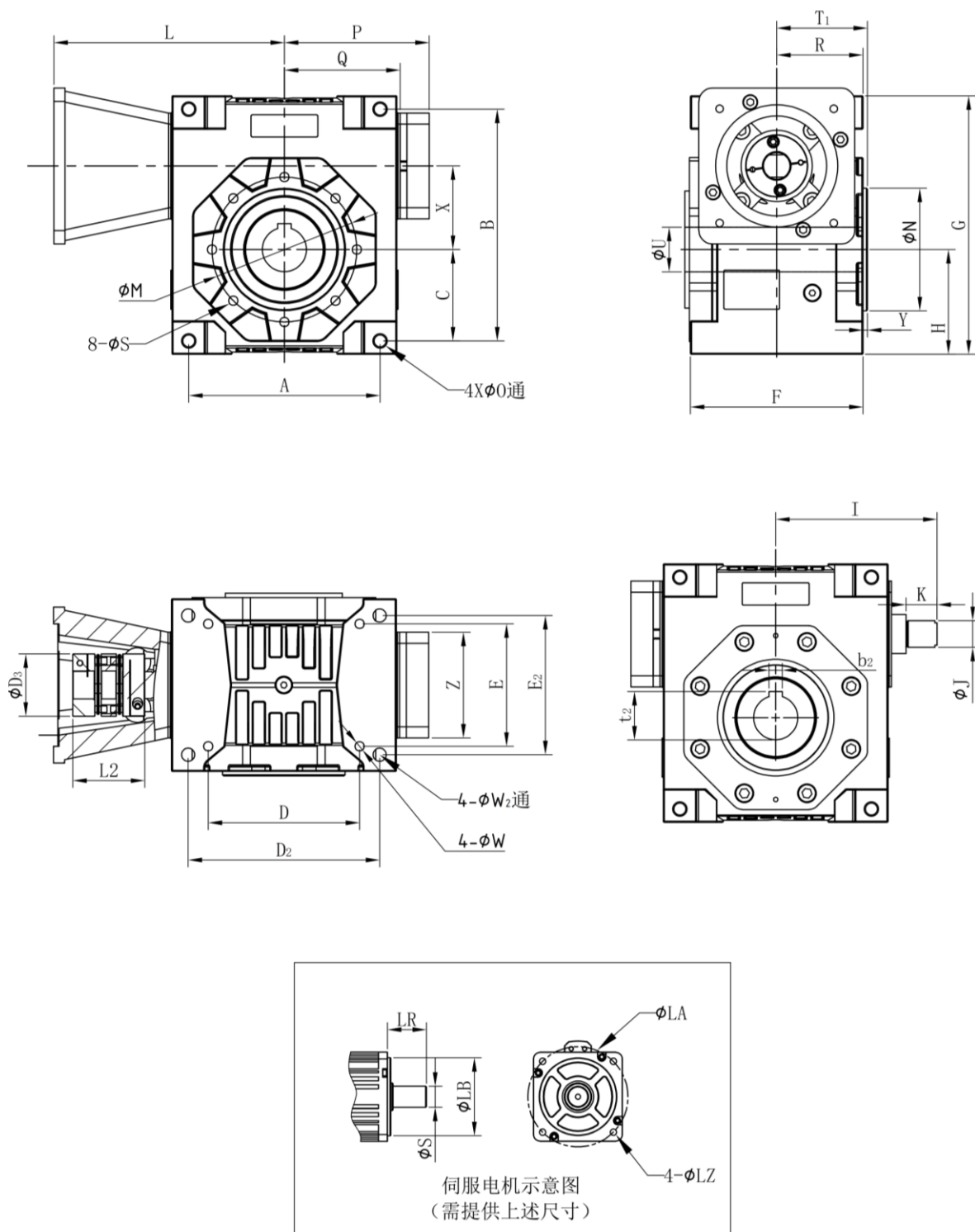
实心轴单/双输出 Solid shaft single/dual output



实心轴单/双输出 Solid shaft single/dual output

	25	35	45	50	55	63	75	90	110	125
A	66	86	108	108	120	134	172	186	220	214
B	84	110	135	138	155	173	208	234	276	302
C	33	44.5	53	53	61	66	82	91	108	107
D	49.5	62	81	81	90	98	136	141	175	214
D3	26	39	44	44	44	44	56	56	68	82
E	44	56	68	68	78	91	110	130	140	140
F	64	86	100	98.5	112	127	155	170	182	180
G	96	126	153	156	175	197	232	264	306	360
H	39	52.5	62	62	71	78	94	106	123	135
I Maxi	61	84	104	104.5	116	127.5	151	165.5	172	203.25
I mini	57	79	98	98.5	110	119.5	145	159.5	166	193.25
J(h6)	9	12	15	15	18	20	24	28	32	35
K	15	17	20	21	24	28	28	28	36	45
L	77	105	134.5	137.5	151	164	227	221.5	250	305
L2	35	50	50	50	50	50	65	65	65	98
M	65	65	85	85	100	115	130	165	200	185
N(h7)	55	50	70	70	80	95	110	130	165	160
O	6	7	9	9	9	11	11	13	13	17
P(Maxi)	56	71	86.5	89.5	99	108	132	138.5	157	179
Q	42	55	67.5	70.5	78	84	104	114.5	132	135
R	32	43	50	48.5	56	63.5	77.5	85	91	90
S	M5	M6	M8	M8	M8	M8	M10	M12	M12	M16
T1	35	46	53	50	59.5	67	81.5	89	115	115
T2	63	83	78.5	78	120.5	138.5	156.5	189	208	233
U3(h6)	18	25	35	35	40	45	50	65	75	75
W	M5	M6	M8	M8	M8	M10	M10	M12	M12	M16
X	25	35	45	50	55	63	75	90	110	125
Y	3	3	3	1.5	3	3.5	4	4	5	4
Z	50	58	64	70	76	93	95	115	115	128
t1	5	8.5	12.5	12.5	15	17	44.5	58	67.5	67.5
b	6	8	10	10	12	14	14	18	20	20
D2	-	-	114	114	125	134	172	204	-	-
E2	-	-	84	84	96	144	125	140	-	-

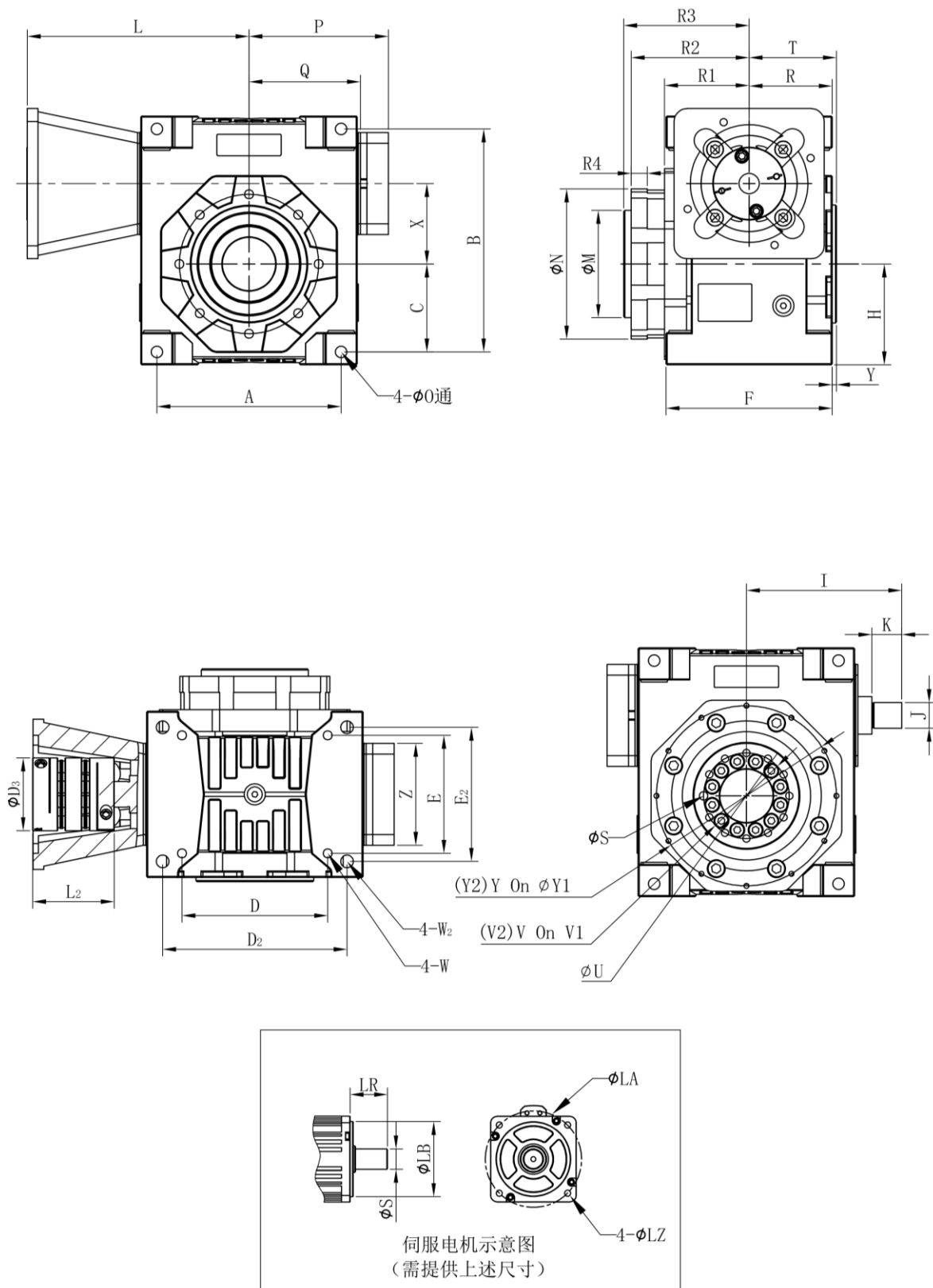
孔键输出 Keyhole output



孔键输出Keyhole output

	25	35	45	50	55	63	75	90	110	125
A	66	86	108	108	120	134	172	186	220	214
B	84	110	135	138	155	173	208	234	276	302
C	33	44.5	53	53	61	66	82	91	108	107
D	49.5	62	81	81	90	98	136	141	175	214
D3	26	39	44	44	44	44	56	56	68	82
E	44	56	68	68	78	91	110	130	140	140
F	64	86	100	98.5	112	127	155	170	182	180
G	96	126	153	156	175	197	232	264	306	360
H	39	52.5	62	62	71	78	94	106	123	135
I Maxi	61	84	104	104.5	116	127.5	151	165.5	172	203.25
I mini	57	79	98	98.5	110	119.5	145	159.5	166	193.25
J(h6)	9	12	15	15	18	20	24	28	32	35
K	10	17	20	21	24	28	28	28	36	45
L	77	105	134.5	137.5	151	164	227	221.5	250	305
L2	35	50	50	50	50	50	65	65	65	98
M	65	65	85	85	100	115	130	165	200	185
N(j7)	55	50	70	70	80	95	110	130	165	160
O	6	7	9	9	9	11	11	13	13	17
P(Maxi)	56	71	86.5	89.5	99	108	132	138.5	157	179
Q	42	55	67.5	70.5	78	84	104	114.5	132	135
R	32	43	50	48.5	56	63.5	77.5	85	91	90
S	M5	M6	M8	M8	M8	M8	M10	M12	M12	M16
T1	35	46	53	50	59.5	67	82.5	89	92	115
U(H7)	-	16	25	25	30	35	40	50	60	65
W	M5	M6	M8	M8	M8	M10	M10	M12	M12	M16
X	25	35	45	50	55	63	75	90	110	125
Y	3	3	3	1.5	3	3.5	4	4	5	4
Z	50	58	64	70	76	93	95	115	138	128
t2	16.3	18.3	28.3	28.3	33.3	38.3	43.3	53.8	64.4	69.4
b2	5	5	8	8	8	10	12	14	18	18
D2	-	-	114	114	125	134	172	204	-	-
E2	-	-	84	84	96	144	125	140	-	-

法兰盘输出 Robot Flange Output



法兰盘输出 Robot Flange Output

	25	35	45	50	55	63	75	90	110	125
A	66	86	108	108	120	134	172	186	220	214
B	84	110	135	138	155	173	208	234	276	302
C	33	44.5	53	53	61	66	82	91	108	107
D	49.5	62	81	81	90	98	136	141	175	214
D3	26	39	44	44	44	44	56	56	68	82
E	44	56	68	68	78	91	110	130	140	140
F	64	86	100	98.5	112	127	155	170	182	180
G	96	126	153	156	175	197	232	264	306	360
H	39	52.5	62	62	71	78	94	106	123	135
I Maxi	61	84	104	104.5	116	127.5	151	165.5	183	203.25
I mini	57	79	98	98.5	110	119.5	145	159.5	175	193.25
J(h6)	9	12	15	15	18	20	24	28	32	35
K	15	17	20	21	24	28	28	28	36	45
L	77	105	134.5	137.5	151	164	207	221.5	214	305
L2	35	50	50	50	50	50	65	65	65	98
M(h6)	65	65	50	85	63	80	100	125	160	185
N(h6)	55	50	80	70	90	110	140	165	200	160
O	6	7	9	9	9	11	11	13	13	17
P(Maxi)	56	71	86.5	89.5	99	108	130	138.5	160	179
Q	42	55	67.5	70.5	78	84	104	114.5	132	135
R	32	43	50	48.5	56	63.5	77.5	85	91	90
R1	-	-	54	-	59	66.5	79	93	100	100
R2	-	-	74	-	82	88.5	110	129	140	140
R3	-	-	80	-	89	99.5	117	138	150	150
R4	-	-	10	-	12	12	15	15	22	22
S	M5	M6	6	6	6	6	8	8	10	10
T	36	46.5	53.5	50.5	60.5	72	82.5	90	98	98
U(H7)	14	20	25	25	30	35	40	50	60	60
U3	16	24	30	30	36	44	50	68	80	80
V	41	50	M6	60	M6	M6	M8	M8	M10	M10
V1	-	-	40	-	50	63	80	100	125	125
V2	-	-	7	-	7	7	11	11	11	11
W	M5	M6	M8	M8	M8	M10	M10	M12	M12	M16
X	25	35	45	50	55	63	75	90	110	125
Y	3	3	M5	1.5	M5	M5	M6	M8	M8	M8
Y1	-	-	100	-	109	135	168	190	233	233
Y2	-	-	8	-	8	8	12	12	16	16
Z	50	58	64	70	76	93	95	115	115	128
D2	-	-	114	114	125	134	172	204	-	-
E2	-	-	84	84	96	144	125	140	-	-