



上海梁瑾机电设备有限公司 动力传动事业部
Shanghai Liang Jin mechanical and electrical equipment co., LTD Transmission Department

UD 无级变速机组合选型电子样册 全国直销批发订购服务热线 136 8175 4481 (微信同步)
021-61994856

UDL B5



UDL B3



UDT B5

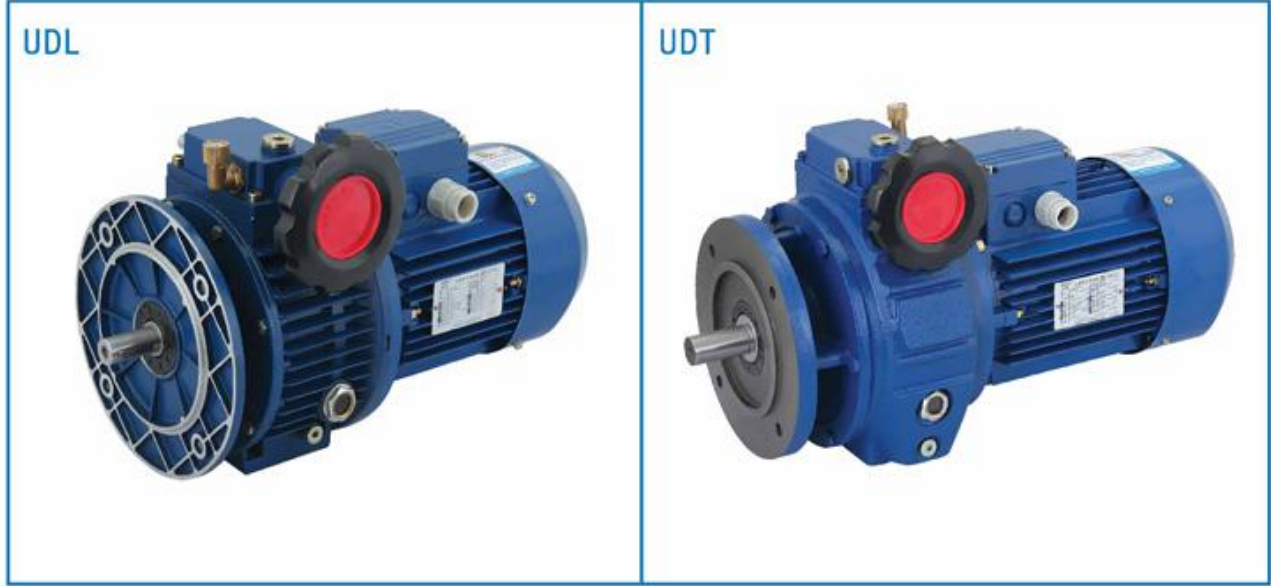


UDT B3

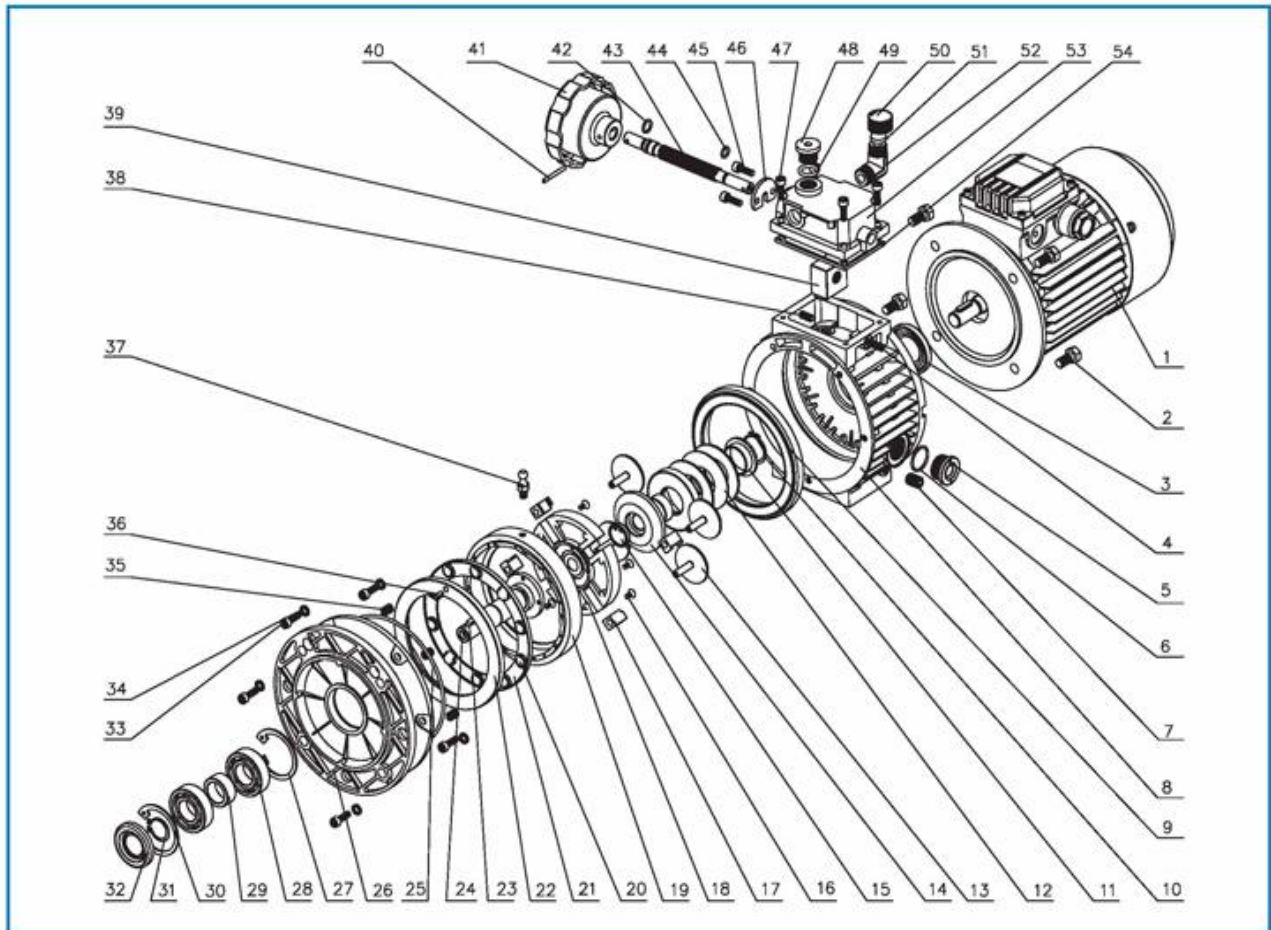


全国直销批发订购服务热线 136 8175 4481 (微信同步) 021-61994856

型式 /TYPE



部件分解图 /PARTS DIAGRAM



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总体简介/GENERAL INTRODUCTION

● 结构特点 /STRUCTURE AND FEATURES

- 调速精度高，速度重复精度达0.5-1转。
- 可双向连续运转。
- 输出传动比在1:1.4至1:7之间（UDL002除外）连续可调，变速比达5。
- 运行效率高，平稳静噪。
- 密封性好，对使用环境适应性强。
- 能与各种减速机灵活组合，解决各种传动变速方案。
- High precision for the speed adjustment, the iterative precision of the speed is between 0.5~1 cycle.
- Can run bi-directional continuously.
- The output transmission ratio is between 1:1.4 and 1:7 (except UDL002) and is adjustable.
- High operating efficiency, stable and no noise.
- Good sealing, and good adaptability in the operating environment.
- Can combine with all kinds of reducers agilely to handle various kinds of transmission projects.

● 主要材料 /MAIN MATERIAL

- 外壳：UDL为铝合金，UDT为铸铁。
- 内部零件：为热处理淬硬的GCr15钢。
- 轴：热处理淬硬并经低温回火的20Cr钢。
- Outside shell: Aluminum alloy for UDL and casting iron for UDT.
- Inner parts: GCr15 steel heat hardening.
- Shaft: 20Cr with heat treatment and tempered with low temperature.

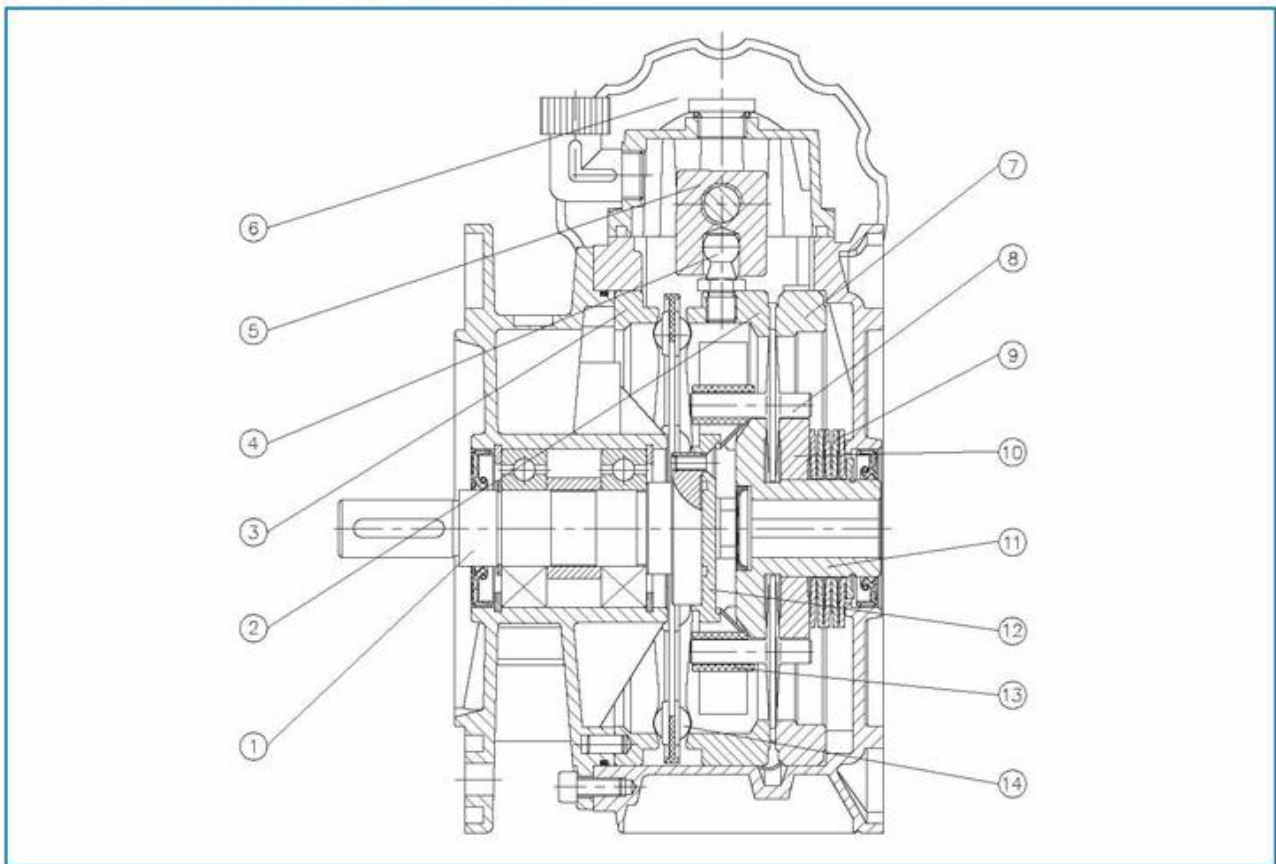
● 涂漆 /PAINTING

- RAL9006 银色
- RAL5010 兰色
- RAL9006 silver
- RAL5010 blue

● 配套电机 /MATCHED MOTORS

- 紫光铝壳电机，IP54/55，B5安装法兰。
- ZIK motors in Aluminum case, mounting position B5 and IP54/55.

运行原理 / OPERATING PRINCIPLE



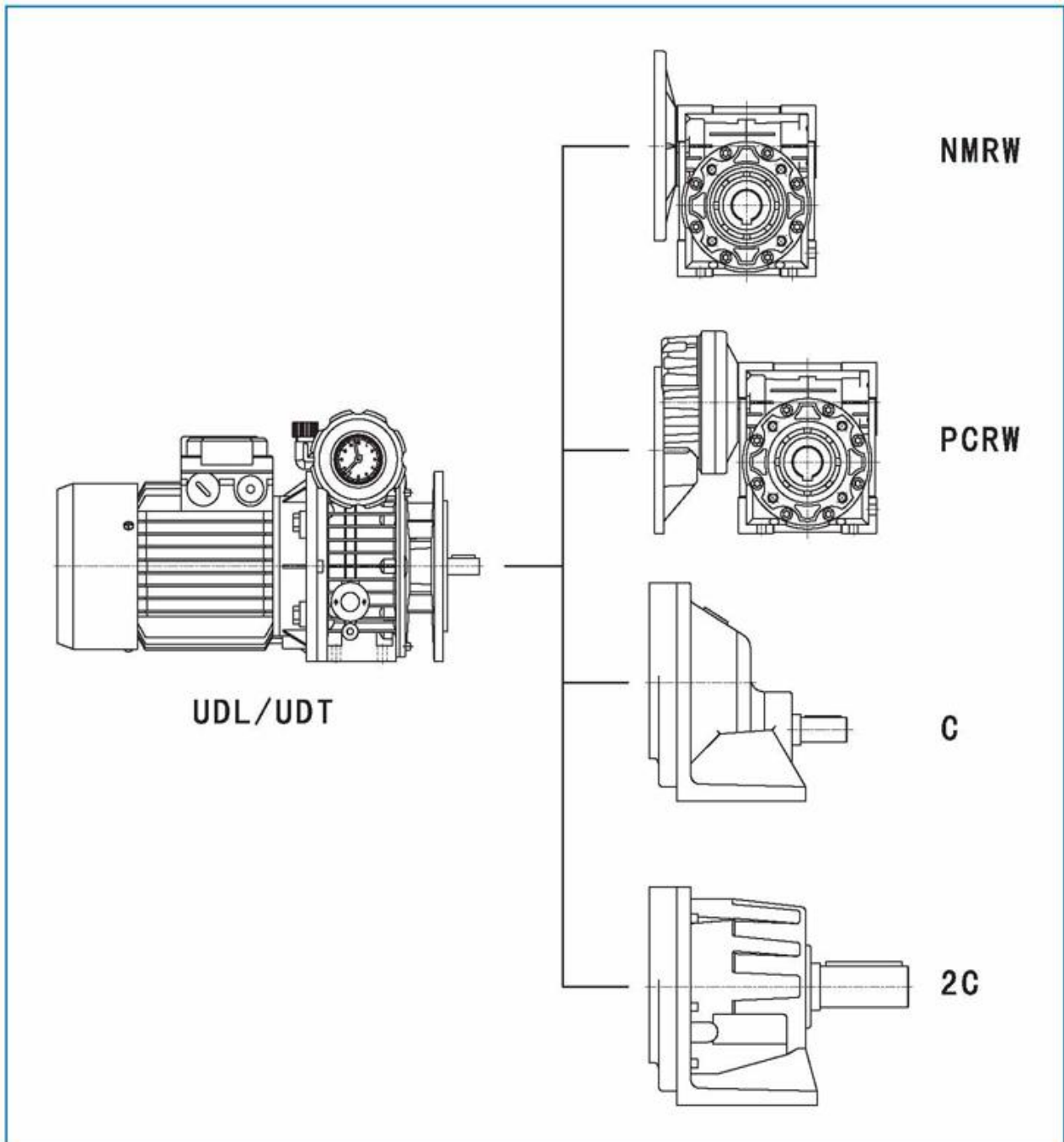
无级变速器基本上由以下部件组成：由碟形弹簧压紧的太阳轮（11），并与输入轴联接，固定环盘（7）被固定安装在变速器壳体中，多个沿圆周方向均布的行星锥盘（8）的内边由太阳轮（11）夹紧，外边在固定环盘（7）与调速凸轮（2）之间的间隙中楔紧，支承各个锥盘轴心的滑块（13）被安装在与输出轴（1）联接的行星架（12）的径向均布槽内。随着与太阳轮（11）联接在一起的输入轴的转动，使各个行星锥盘（8）绕本身中心作旋转运动的同时也使整个行星锥盘组的轴心相对于机体作公转运动。正是这种公转运动被行星架（12）提取，并传递到与之相联的输出轴（1）即为输出转速。速度的调节是靠转动调速手轮（6）来实现的。

The main drive components of such variator consist of following parts basically: Inner planetary orbit, planetary wheel, outer planetary orbit and compression device regulating orbit. As see table, electric motor shaft is the input shaft. While driving inner planetary orbit to rotate, the inner planetary orbit tightly clamps planet wheel on the both sides under the actions of the butterfly spring to actuate planet wheel by frictional force. In the meantime of planet wheel's rotation, it makes revolution round inner planetary orbit. Its revolution motion is transmitted by planet wheel shaft to output shaft through planet support.. While adjusting its speed, rotate operation handwheels to make the movable outer planetary orbit swing, make the planet wheel inward (quicker) or outward (slower) moving through compression device in order to change the contact radius between planet wheel and inner planetary orbit, i.e. Change planet wheel's rotation & revolution speed. The revolution motion changed in this way transmitting to output shaft becomes stepless speed variation output.

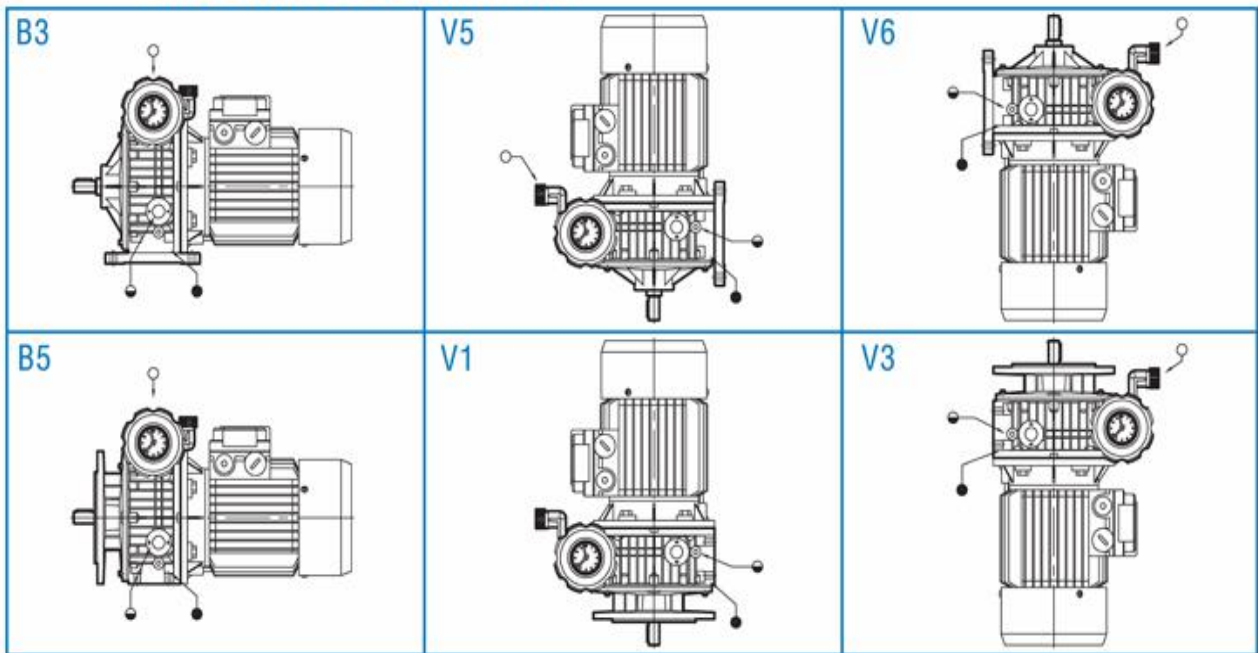
可能的联接组合 / POSSIBLE COMBINATION

基本型无级变速机能在一定范围内实现无级变速。与各种减速机组合使用能得到在不同的转速段内的无级调速，机组变速比与基本型无级变速机相同。以下列出无级变速机与各类减速机可能的联接：

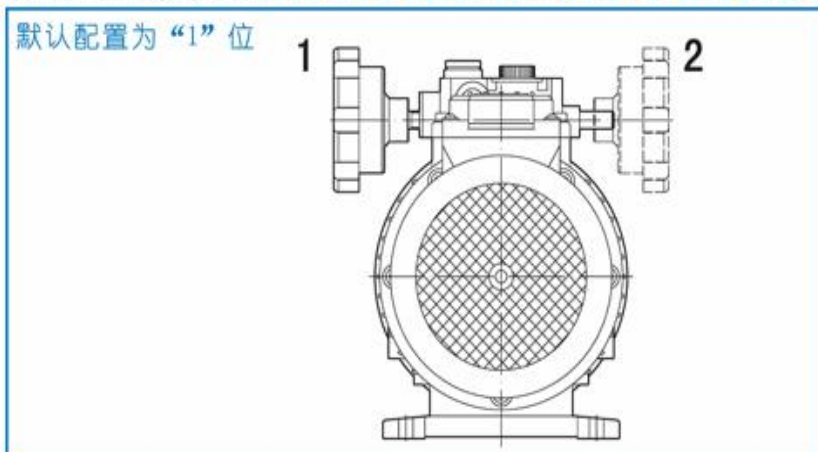
Basic type of variator can adjust the speed in a certain range. Combined with different of reducers, the variator will adjust speed stepless in different rotate speed section. The ratio of this variator combination is same as the basic type of variator. The possible combination of variator and reducer is as follows:



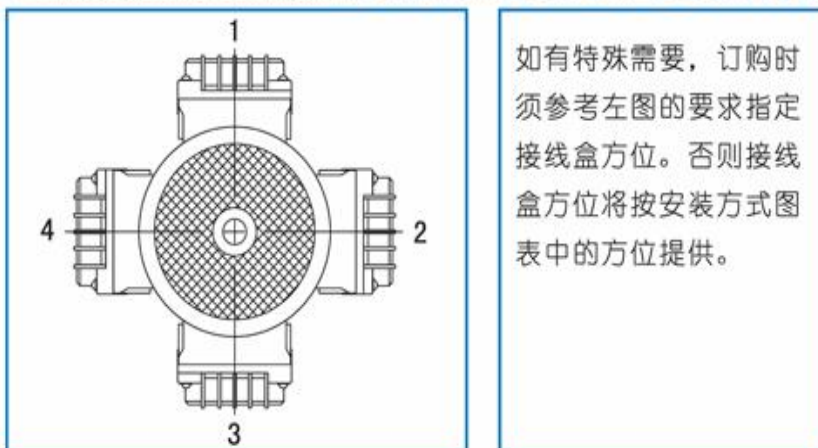
安装方式 / MOUNTING POSITIONS



手柄位置示意图 / SKETCH FOR HANDLE POSITION



电机接线盒方位示意图 / SKETCH FOR THE POSITION OF MOTOR TERMINAL BOX



UD无级变速器是通过磨擦传动来输出扭矩的，润滑油兼起牵引与润滑的双重功能，因此正确选择润滑油使磨擦机构得到良好的牵引和润滑是至关重要的。

UD variator get the output torque through friction drive, lubrication has the double function: traction and lubricant. so it is very important to choose the correct.









变速器采用飞溅润滑，因此在启动机器运行前检查油液容量是非常重要的：油位须在油面观察高度2/3以上。

We use the splash lubrication for variator. therefore, it is very important check the lubrication volume before starting up the machine: the lubrication level should be over 2/3 of the oil observation height.

以下表格给出各种安装方位时所需的大致油液容量及推荐使用的润滑油牌号，请严格按照下表数据使用润滑油。不规范的使用将有导致机器永久失效的可能。

Following table shows rough lubrication volume and recommended lubrication brand for various mounting position. please obey the volume in following table strictly to choose correct lubrication. nonstandard usage may cause the permanent failure of the variator.

油容量 (升)/LUBRICATION VOLUME(LITER)			
MOUNTING POSITION TYPE	B3-B5	V1-V5	V3-V6
UDL002		0.32	
UDL005		0.48	
UDL010	0.28	1.2	0.28
UDT020	0.45	2.9	1.05
UDT030	1.2	6	2.5
UDT050	2.3	10	4.5

推荐润滑油 /RECOMMENDED LUBRICANT	
	VG32
	Ub-1 Ub-2 Ub-3
	TRANSMISSION V.E A.T.F.DEXRON FLUID
	TQ.DEXRON II
	AUTRAN DX
	A.T.F.220
	A.T.F.DEXRON
	A.T.F.DEXRON
	A.T.F.DEXRON

● 调速特性图: $i=f(n_s)$ / SPEED ADJUSTMENT CURVE: $i=f(n_s)$

■ : 理论延伸段 / EXTENDING SECTION IN THEORY

■ : 实际应用段 / APPLYING SECTION IN PRACTICE

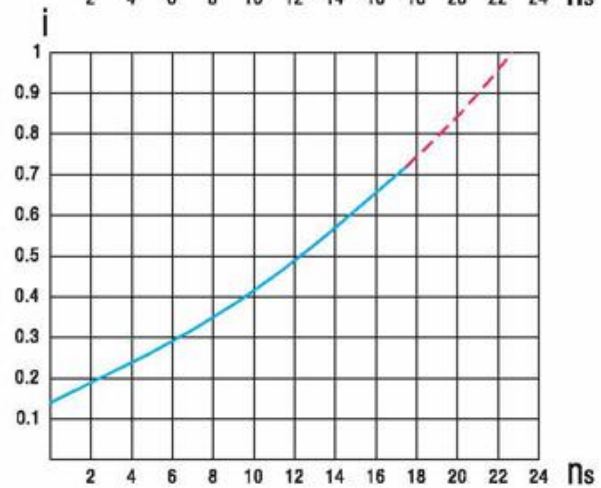
UDL002



UDL005



UDL010



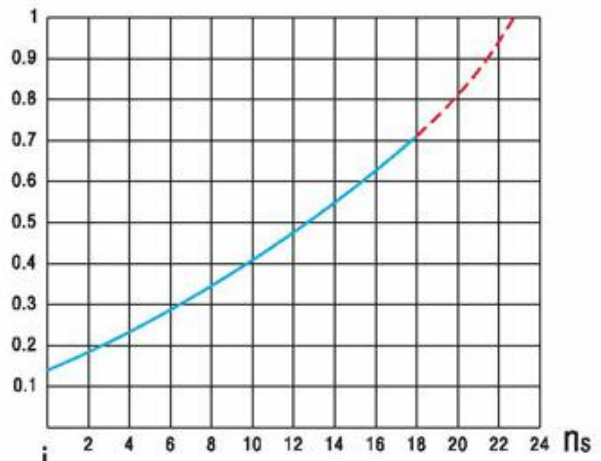
● 调速特性图: $i=f(n_s)$ 一续 /SPEED ADJUSTMENT CURVE: $i=f(n_s)$

- : 理论延伸段 /EXTENDING SECTION IN THEORY
- : 实际应用段 /APPLYING SECTION IN PRACTICE

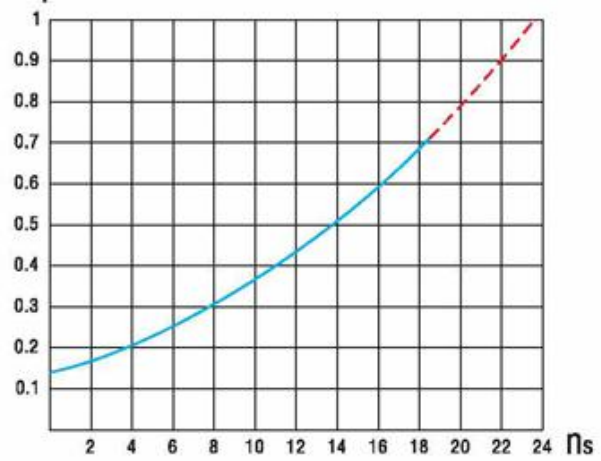
UDT020



UDT030

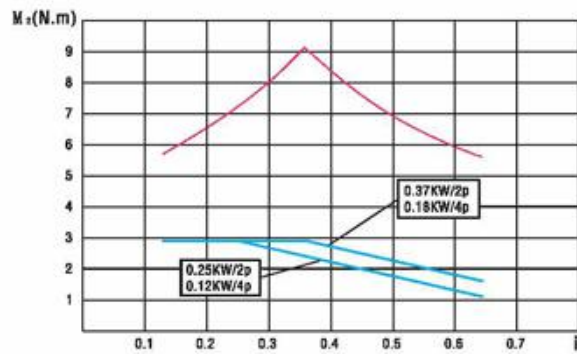


UDT050

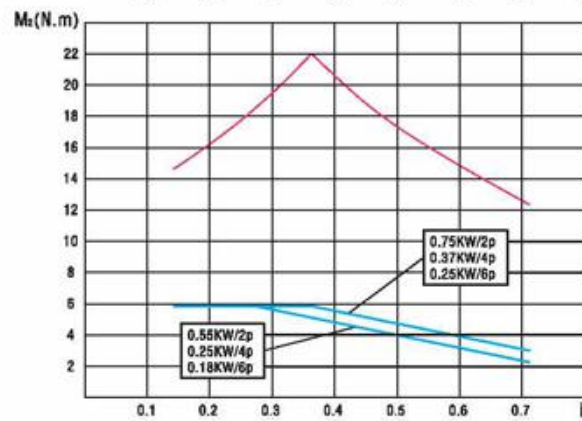


● 转矩特性图: $M_2=f(i)$ / MOMENT CURVE: $M_2=f(i)$

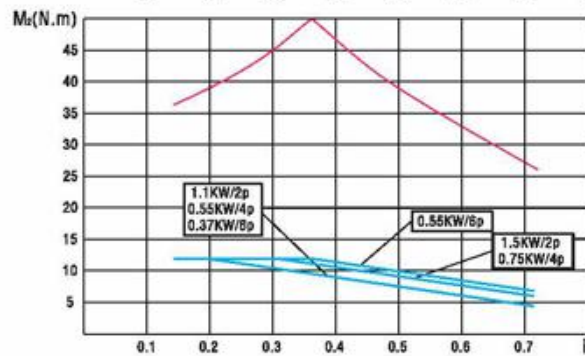
UDL002



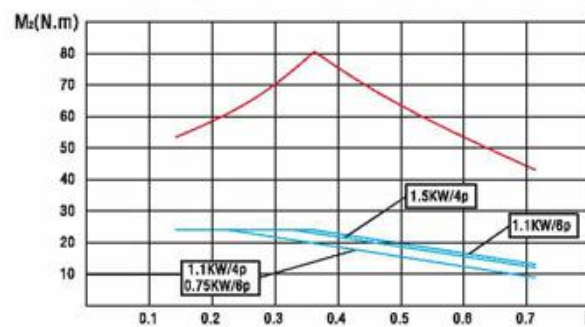
UDL005



UDL010

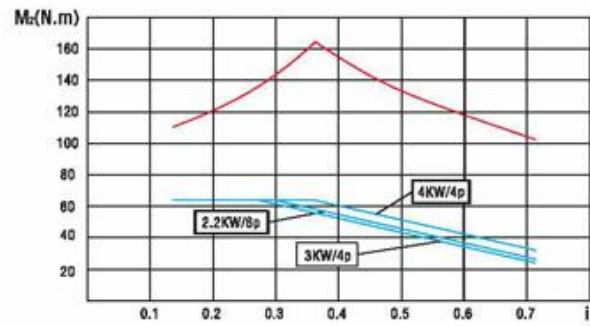


UDT020

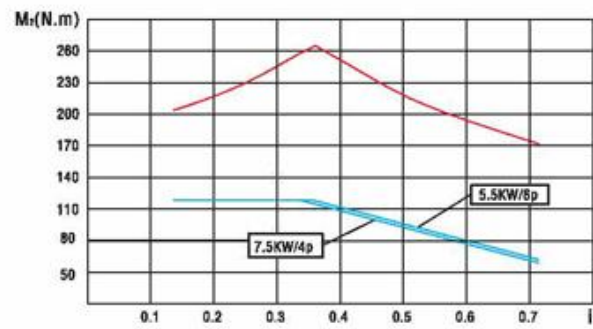


● 转矩特性图: $M_2=f(i)$ 一续 /MOMENT CURVE: $M_2=f(i)$

UDT030



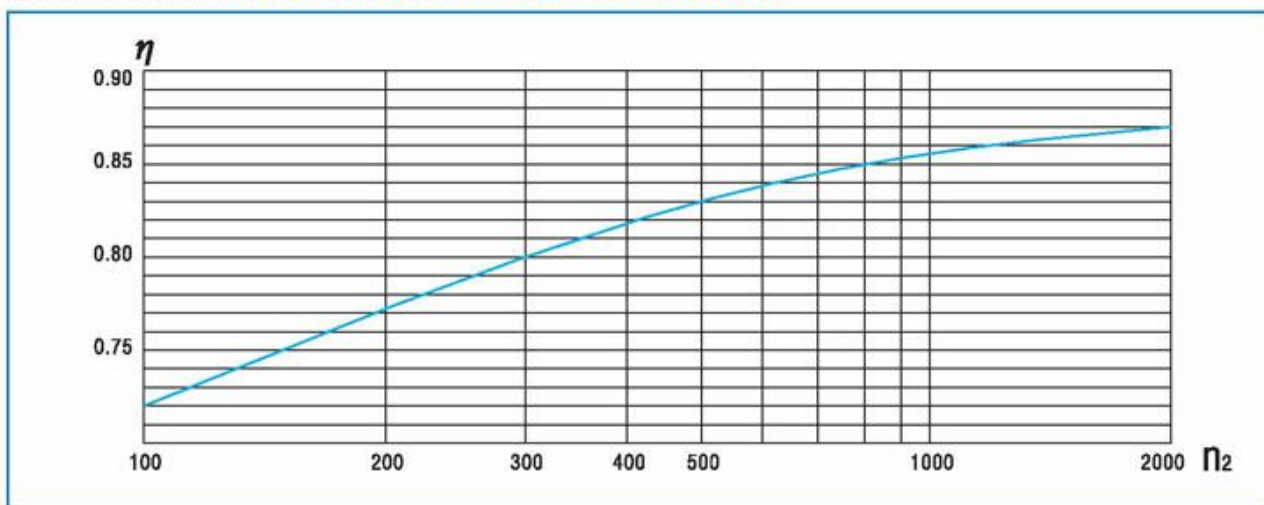
UDT050



变速机的性能参数 / PERFORMANCE PARAMETER OF VARIATOR

n ₁ =2800r/min						
KW	TYPE	i	n _{2min}	n _{2max}	M _{2max}	M _{2min}
0.25	UDL002	0.129-0.645	361	1806	2.9	1.1
0.37						1.6
0.55	UDL005	0.143-0.714	400	2000	5.9	2.2
0.75						3.0
1.1	UDL010	0.143-0.714	400	2000	11.9	4.4
n ₁ =1400r/min						
KW	TYPE	i	n _{2min}	n _{2max}	M _{2max}	M _{2min}
0.12	UDL002	0.129-0.645	181	903	2.9	1.1
0.18						1.6
0.25	UDL005	0.143-0.714	200	1000	5.9	2.2
0.37						3.0
0.55	UDL010	0.143-0.714	200	1000	11.9	4.4
0.75						6.0
1.1	UDT020	0.143-0.714	200	1000	24.0	8.8
1.5						12.0
2.2	UDT030	0.143-0.714	200	1000	36.0	17.9
3						24.0
4						32.0
5.5	UDT050	0.143-0.714	200	1000	90.1	44.9
7.5						59.0
n ₁ =900r/min						
KW	TYPE	i	n _{2min}	n _{2max}	M _{2max}	M _{2min}
0.18	UDL005	0.143-0.714	129	643	5.9	2.2
0.25						3.0
0.37	UDL010	0.143-0.714	129	643	11.9	4.4
0.55						6.8
0.75	UDT020	0.143-0.714	129	643	24.0	8.8
1.1						13.0
1.5	UDT030	0.143-0.714	129	643	36.0	17.9
2.2					64.0	26.4
5.5	UDT050	0.143-0.714	129	643	118.1	61.0

变速机的效率 /THE EFFICIENCY OF VARIATOR

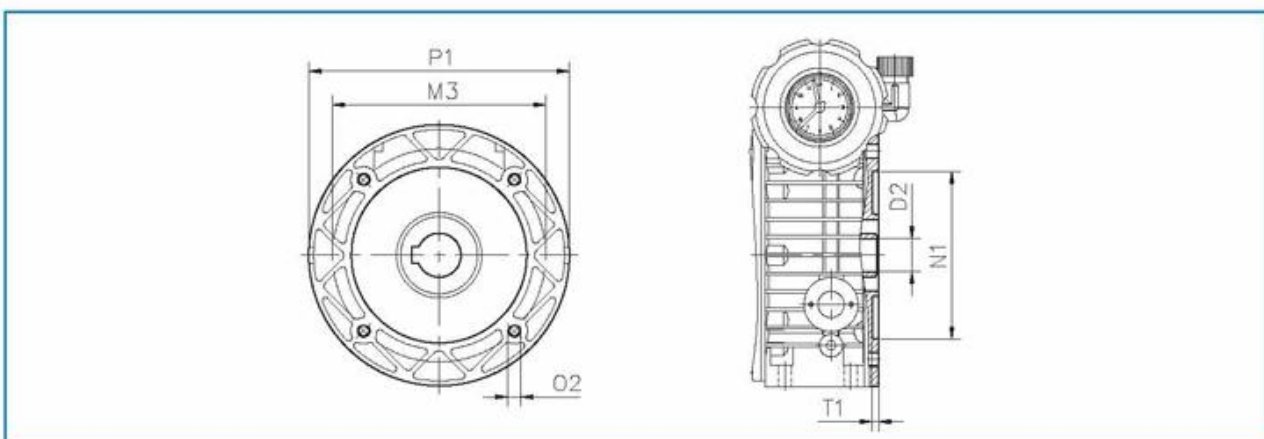


注：每型变速机的效率曲线并不尽相同，但大致趋势规律是相同的。

Note: the efficiency curve for different variator is not the same. But its trend rules are same.

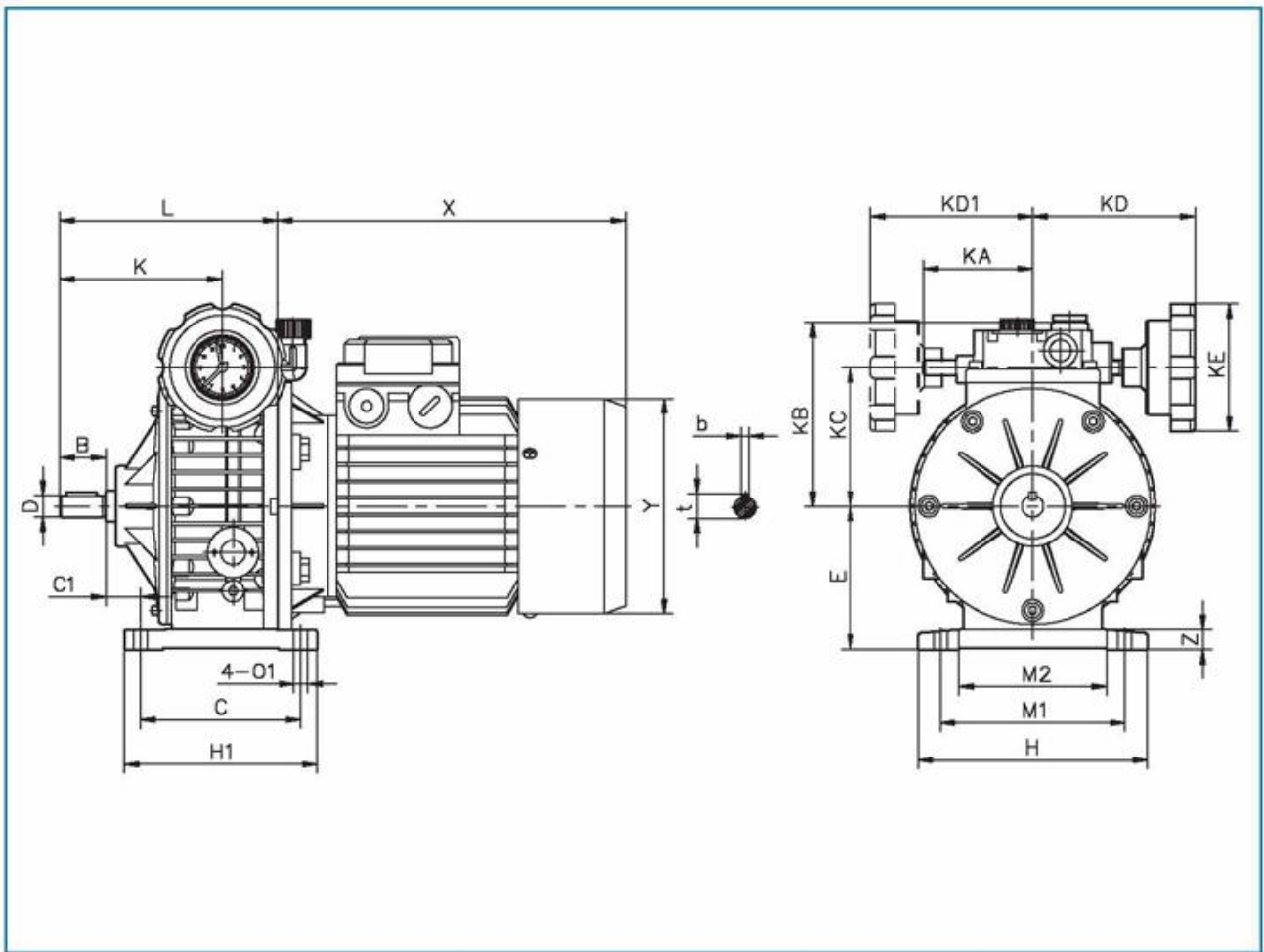
变速机的电机配合接口

/THE ADAPTATION INTERFACE OF THE VARIATOR TO THE MOTOR



	PAM IEC	P1	N1(H8)	M3	O2	D2(F7)	T1
UDL002	63B5	140	95	115	M8	11	5
UDL005	71B5	160	110	130	M8	14	5
UDL010	80B5	200	130	165	M10	19	6
	90B5	200	130	165	M10	24	6
UDT020	90B5	200	130	165	M8	24	6
UDT030	100/112B5	250	180	215	M12	28	6
UDT050	132B5	300	230	265	M12	38	6

B3型外形尺寸 / THE DIMENSIONS OF THE PROFILE FOR B3 FORM

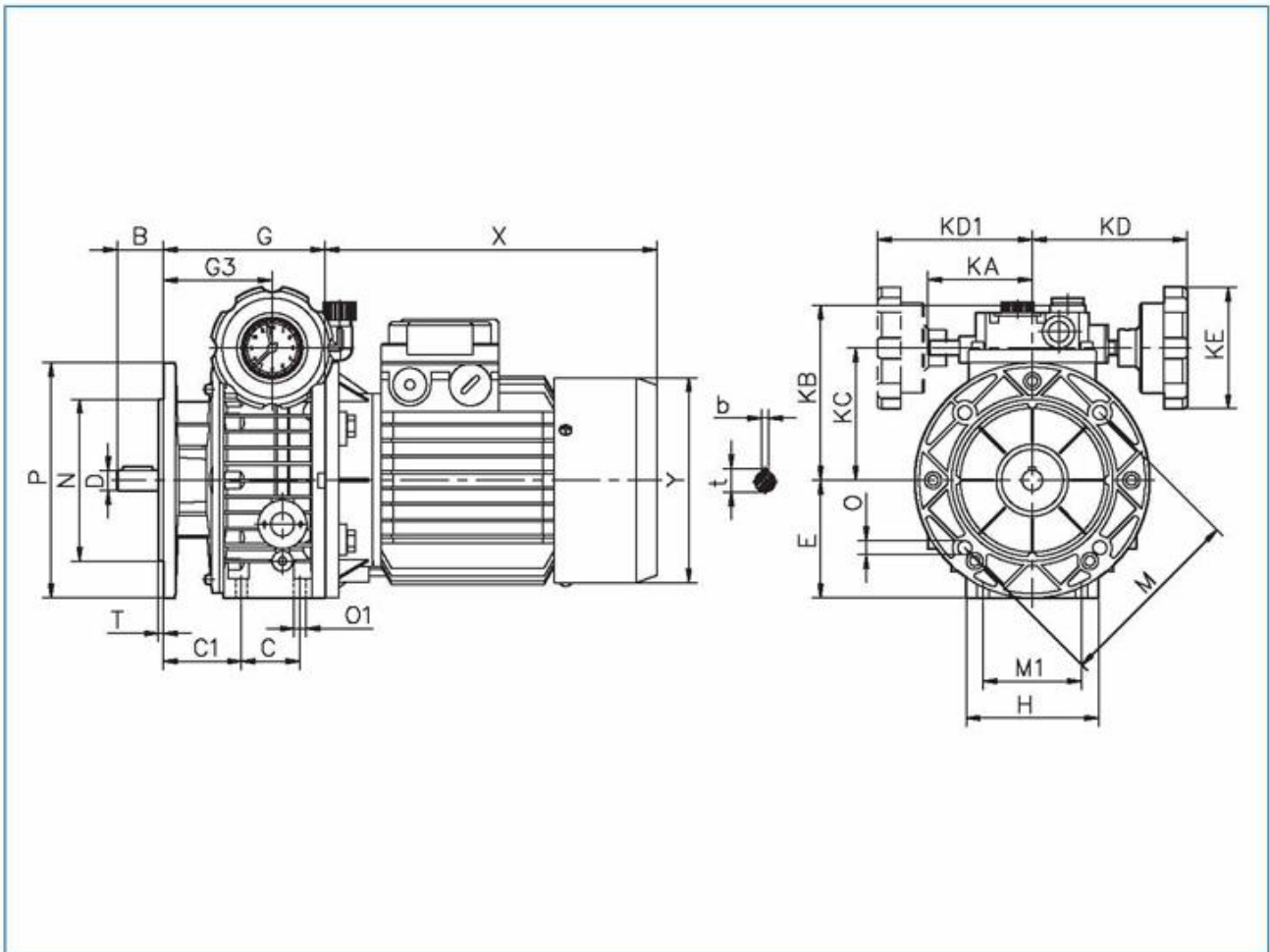


	B	C	C1	D(Ø)	E	H	H1	K	L	M1	M2	O1	KA	KB	KC	KD	KD1	KE	b	t	Z
UDL002	23	105	17.5	11	80	145	120	87.5	135.5	110	71	9	71	111	78	110	110	85	4	12.5	10
UDL005	30	104	20	14	93	149	125	104	140	120	96	9	71	123	90	110	110	85	5	16	10
UDL010	40	125	26	19	113	190	150	125.5	179	160	135	11	79	140	107	120	120	110	6	21.5	15
UDT020	50	140	49	24	125	241	150	165	222	180	143	12	-	144	122	150	-	110	8	27	18
UDT030	60	230	25	28	150	300	270	191	268	245	190	14	-	188	150	160	-	110	8	31	25
UDT050	70	250	33	38	200	365	290	201	319	315	245	18	-	-	192	194	-	110	10	41	30

注：X、Y尺寸参见本公司样本A—《通用电机》篇中的尺寸部分。

Note: Pls refer to our catalogue Electric Motor for the size of X & Y.

B5型外形尺寸 / THE DIMENSIONS OF THE PROFILE FOR B5 FORM



	B	C	C1	D(φ)	E	G	G3	H	M	M1	N	O	O1	P	T	KA	KB	KC	KD	KD1	KE	b	t
UDL002	23	50	46	11	70	112.5	64.5	72	115	60	95	9	M6	140	3.5	71	111	78	110	110	85	4	12.5
UDL005	30	40	53	14	80	110	74	90	130	77	110	9	M8	160	3.5	71	123	90	110	110	85	5	16
UDL010	40	58	60	19	100	139	85.5	98	165	84	130	11	M8	200	3.5	79	140	107	120	120	85	6	21.5
UDT020	50	-	-	24	107	172	115	180	165	-	130	11	-	200	3.5	-	144	122	150	-	85	8	27
UDT030	60	-	-	28	150	208	131	270	215	-	180	15	-	250	4	-	188	150	160	-	110	8	31
UDT050	70	-	-	38	200	244	131	-	265	-	230	19	-	300	5	-	-	192	194	-	110	10	41

注：X、Y尺寸参见本公司样本A—《通用电机》篇中的尺寸部分。

Note: Pls refer to our catalogue Electric Motor for the size of X & Y.

订货须知 /NOTICE FOR ORDER

用户在订购本公司变频器产品时，须向本公司说明以下各项产品信息：

1. 变频器的型号；
2. 变频器的安装方式；
3. 所配电机的功率；
4. 外壳喷涂：如无指定，所有本公司的UDL系列变频器为银白铝合金本色，UDT系列变频器为蓝色，电机均为蓝色。如有指定，按用户要求制作；
5. 如选配本公司的紫光电机，须按本公司样本A—《通用电机》篇中的“订货须知”说明对电机的要求。

When the purchaser buy our variators, they should supply the following information to us:

1. Model of variator.
2. Mounting position.
3. The power of the mating motor.
4. The paint color of the outside shell: if no special requirement, our color for the UDL serial variators is silver white (natural color of aluminum alloy). The color for the UDT serial variators is blue.
5. If also order our motor to match the variator, should refer to our catalogue--- electric motor .

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