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三凯产品使用说明书

DIRECTIONS FOR USE

使用说明

使用限制 / INSTALLATION

NMRV系列安装使用与保养 / NMRV INSTALLATION USAGE & MAINTENANCE

UDL系列安装使用与保养 / UDL INSTALLATION USAGE & MAINTENANCE

润滑油 / LUBRICATION

订货须知 / NOTICE FOR ORDERING

标准电机外形参考尺寸 / STANDARD MOTOR EXTERNAL REFERENCE DIMENSION

全国直销批发订购服务热线 136 8175 4481（微信同步） 021-61994856 QQ
1193288515

使用限制 / INSTALLATION

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这本样本给出的参数基本上是按B3安装方位来编的，即第一级没有完全浸入油中。对于其他安装方位和输入转速，请参考下面表格中相应参数。当遇到下列应用情况时，如有必要请与我们技术服务人员联系。

- ① 在原有上提高转速时。
- ② 应用在惯性特别大的设备上时。
- ③ 应用在如升降机（需要自锁考虑）时。
- ④ 当减速机出现故障有可能会对操作者造成危害时。
- ⑤ 当减速机出现过度疲劳状态时。
- ⑥ 工作环境温度低于 - 5°C或高于40°C时。
- ⑦ 在化学腐蚀环境中使用时。
- ⑧ 在盐性环境中使用时。
- ⑨ 在辐射性高的环境中使用时。
- ⑩ 在环境气压不在正常大气压力下使用时。
- ⑪ 安装方位在这样本中没有提到时。

避免将减速机部分或整台浸入水里或其他液体中。

减速机承受的最大负载扭矩不能超过两倍于性能参数表中规定的正常扭矩（当使用参数 $f_s = 1$ 时）：这里最大负载扭矩是指能承受瞬间短暂适度的过载，它出现在过载启动、刹车、振动或其他动态操作环境中。

CRITICAL APPLICATIONS

The performance given in the catalogue corresponds to mounting position B3 or similar, it means the first stage is not entirely immersed in oil. For other mounting positions and particular input speeds, refer to the tables that highlight different critical situations for each size of reduction unit. When faced with the following application, please contact our technical service if necessary.

- ① As a speed increasing.
- ② Applications with especially high inertia.
- ③ Use as a lifting winch. (Think about irreversibility)
- ④ Use in services that could be hazardous for people if the reduction unit fails.
- ⑤ Applications with high dynamic strain on the case of the reduction unit.
- ⑥ In places with a temperatures T under -5°C or over 40°C.
- ⑦ Use in chemically aggressive environments.
- ⑧ Use in a salty environments.
- ⑨ Use in radioactive environments.
- ⑩ Use in environments pressures other than atmospheric pressure.
- ⑪ Mounting positions not envisaged in the catalogue.

Avoid applications where even partial immersion of the reduction unit is required.

The maximum torque that the gear reducer can support must not exceed two times the nominal torque ($f_s = 1$) stated in the performance tables. Intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

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NMRV系列安装使用与保养 / NMRV INSTALLATION USAGE & MAINTENANCE

安装减速机时要注意以下一些事项：

- ① 减速机与机械设备装配之前，要检查减速机输出轴的旋转方向是否正确。
- ② 减速机与原动机、设备装配之前，应检查各轴径、孔径、键和键槽的偏差尺寸，避免装配过紧、过松影响减速机性能。
- ③ 减速机必须牢固地安装在机械设备上，避免有松动或振动。
- ④ 尽可能地避免减速机暴露在烈日阳光下和恶劣环境中。
- ⑤ 如果减速机存放时间长达4 - 6个月，应检查油封是否浸润在润滑油中，可能油封唇口会粘在轴上，甚至失去了弹性，由于适当的弹性是油封必须的工作条件，所以推荐更换油封。
- ⑥ 所有橡胶件和透气孔不能沾有油漆。
- ⑦ 与减速机的空心轴配合连接时，应在轴上配合部分涂上润滑油，以免卡死或氧化。
- ⑧ 使用时必须检查油位（如油位镜孔或打开油塞，小型号是没有的）
- ⑨ 使用新减速机时，不能满负载起动，应该逐步增大负载。
- ⑩ 使用各类电机直联型减速器时，若电机重量偏大，应设支撑装置。
- ⑪ 确保电机风扇附近有良好的通风环境，以免影响散热效果。
- ⑫ 减速机的标准工作环境温度是 - 5°C至40°C，如果不在这范围时，请与我们联系。

To install the reduction unit is necessary to note the following recommendations:

- ① Check the correct direction of the reduction unit output shaft before fitting the unit to the machine.
- ② Before mount with the prime mover and device, please check the reducer' s every axial diameter, aperture, key and key slot, to be sure their dimension are not deviation, and avoid assembling too tight or too loose, unless it will influence the reducer' s performance.
- ③ The mouting on the machine must be stable to avoid any vibration .
- ④ Whenever possible, protect the reduction unit against solar radiation and bad weather.
- ⑤ In the case of particularly lengthy periods of storage(4-6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
- ⑥ Painting must definitely not go over rubber parts and the holes on the breather plugs, if any .
- ⑦ When connect with hollow or solid shaft, please grease the joint to avoid lock or oxidation.
- ⑧ Check the correct level of the lubricant through the indicator, if there is one.
- ⑨ Starting must take place gradually, without immediately applying the maxium load.
- ⑩ Supporting unit is required when using various of reducer matched with motor directiy and the good passage of the air from the fan side.
- ⑪ Ensure good ventiling environment near the motor fan, lest affect the cooling effect..
- ⑫ In the case of ambient temperatures < -5°C or > +40°C call the Technical Service.

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UDL系列安装使用与保养 / UDL INSTALLATION USAGE & MAINTENANCE

- ① 轴伸形式全部为圆柱形，按《圆柱形轴伸》GB1569-1990选定，键联接按《普通平键》GB1095 - 2003选定。
- ② 联轴器与电动机连接时应使轴线保持同心，安装误差不应大于所用联轴器的允许误差值。
- ③ 输出轴装联轴器或带轮时，用轴端螺孔压入，或加热装备，严禁捶打！
- ④ 机械无级变速器不宜用于可能超负荷或堵转适用场合。
- ⑤ 调速应在运转进行，严禁停车转动调速手轮！
- ⑥ 操作盒下的两端调速限位螺钉已调整好，请勿再动！
- ⑦ 本机不宜工作在高于40°C的环境中，温升不得高于45°C。关于本机的温升请看下面的介绍：
变速器采用四极电机时，此时部件在跑合（空车运转）开始，温度高于正常工作环境温度约为40 - 50°C。跑合60 - 80小时后，温升逐渐下降，此后温度高于环境温度20°C，并保持稳定的温升，跑合时高的温升影响正常工作条件，但对部件的使用寿命并无有害影响。
- ⑧ 变速器采用润滑油油浴润滑。润滑油牌号为Ub-3x，使用前请检查油位。
- ⑨ 出厂前润滑油已加入，首次使用1000小时后应更换润滑油，以后每隔5000小时换一次油。
- ⑩ 变速器内润滑油应保持在油标的三分之二高度，用户应经常检查油位高度，严禁在润滑不良的情况下使用。操作盒上的透气螺母出厂时为防止搬运中漏油已旋紧，运转时需松开，严禁未松开使用！

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- ① The shapes of shaft extension are all cylindrical. It is subject to GB1569-1990 Cylindrical shaft extension. The key joint refers to GB1095-2003 Ordinary flat key.
 - ② The shaft lines should be kept concentric when the coupling is connected with a motor. The installation error should be no more than the tolerance value of coupling.
 - ③ When the output shaft is installed with the coupling or belt wheel, they should be pressed into the screw hole on shaft end. Or assembled by heating. No hammering on it!
 - ④ The mechanical stepless variator is not used in such an occasion when wheel overload or running-blockage happens to occur.
 - ⑤ Speed-regulation should be effected in running. Do not turn the hand wheel of speed-regulation when the machine stops!
 - ⑥ The limit screws of speed-regulation on two ends under the operating box are well adjusted, Please don't touch them!
 - ⑦ This set is not suited to work in the environment over 40°C, especially no more than 45°C when the temperature rises. In regard to its temperature rise please read the explanation as follows:
If a 4-pole motor is used for the speed variator, the temperature under running-in (empty running) is 40-50°C higher than that of normal working environment. After running-in up to 60-80 hours, the temperature rise will go down gradually. From that time on, it is 20°C higher than of environment, and the temperature will keep on rising stably. The high temperature rise in running will affect normal permissible working condition, but it won't bring any bad effects to the service life of parts.
 - ⑧ The liquid lubricating oil is used for the speed variator. Its trade mark is Ub-3x. Please check up the oil level before use.
 - ⑨ The machine is filled with lubricating oil before leaving factory. When it starts to work up to 2000 hours for the first time, its lubricating oil should be replaced, changing the lubricating oil every 5000 hours later.
 - ⑩ The lubricating oil level inside the speed variator should be kept at the height of two-third in the oil scale. Users should usually check the height of oil level. It is strictly prohibited to operate it when short of lubricating oil. The air screw nut on the operating box is screwed up for preventing from oil leakage in moving before leaving factory. It should be loosened when it starts to run. It is strictly forbidden to use it before loosening!

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工作环境温度不在表中范围内，请与我们联系技术服务人员联系。

当工作环境温度低于 - 30°C或高于60°C时，要使用特殊材质的油封。

当工作环境温度低于0°C时，必须考虑下列情况：

- ① 选用的电机必须在低温下能正常工作。
- ② 如果减速机箱体的材质是铸铁，在温度 - 15°C以下时，箱体变得很脆，要注意尽量避免撞击。
- ③ 在开始使用阶段时，由于润滑油的粘度很高，可能会产生一些问题，所以刚开始启动时最好让它空载运转几分钟。减速机运转大约10.000小时后，应更换润滑油，换油频率按减速机实际运行情况和工作环境条件而定。

- NMRV025、030、040、050、063、075、090规格的减速机在出厂时已加注了润滑油，可以按照样本中安装方位所提到的方位安装。V5或V6安装时，请与我们联系技术服务人员联系。
- 减速机NMRV110、130和150规格在出厂时已加注了矿物润滑油（SHELL Omala OIL 460）。
- 无级变速器在出厂时也加注了矿物润滑油（广研Ub-3x）。
- 减速机NMRV110、130和150规格的安装方位在下单时要说明，否则润滑油理按B3方位提供。
- NMRV系列的减速机，在特定的工作环境，需配排气阀（可选配件）。
- PC已加注了耐用的合成油润滑油（SHELL TEVELA OIL 320），因此能够安装任何方位。

In cases of ambient temperature not envisaged in the table, call our Technical Service.

In the case of temperature -30°C or over 60°C. It is necessary to use oil seals with special material.
For operating ranges with temperatures under 0°C. It is necessary to consider the following.

- ① The motors need to be suitable for operation at the envisaged ambient temperature.
- ② In the case of reduction units with a cast-iron case, pay attention to impact loads since cast iron may have problems of fragility at temperatures under-15°C.
- ③ During the early stages of service, problems of lubrication may arise due to the high level of viscosity taken on by the oil and so it is wise to have a few minutes of rotation under no load.

The oil needs to be changed after approximately 10.000 hours. This period depends on the type of service and the environment where the reduction unit works.

- The reduction units size NMRV025、030、040、050、063、075、090 are supplied complete with lubricant, and can therefore be mounted in any position envisaged in the catalogue. V5/V6 for which you should call our Technical Service to assess the conditions of use.
- The reduction units size 110 and 130 are supplied complete with lubricant, mineral oil,(SHELL TEVELA OIL 320)
- The variator speed are supplied complete with lubricant, mineral oil(GUANGYAN Ub-3x)
- For sizes 110 and 130 it is necessary to specify the position, otherwise the reduction units are supplied with the quantity of oil relating to pos. B3.
- NMRV series worm gearbox should mount breather plug (optional parts) under special working condition.
- PC is supplied complete with lift-long lubricant, synthetic oil (SHELL TEVELA OIL 320), and can therefore be mounted in all the positions.

润滑油选用表 / LUBRICANTS OIL SHOSEN TABLE

		ISO	SHELL	AGIP	ESSO	MOBIL	CASTROL	BP	广研	
NMRV025~090 PC063~090	-25 +50	VG320	Tivela OIL S320	Telium VSF320	S220	Glygoyle 30	Alphasyn Pg320	Energol SG-XP320		合成油 Synthetic oil
NMRV110~150	-5 +40	VG460	Omala OIL460	Blasia 460	Spartan Ep460	Mobilgear 634	Alpha MAX 460	Energol GR-XP460	CKE460	矿物油 Mineral oil
		VG220	Omala OIL220	Blasia 220	Spartan Ep220	Mobilgear 630	Alpha MAX 220	Energol GR-XP220		
UDL	-25 +40	Vg32	A.T.F.DXRON	A.T.F.DXRON	A.T.F.DXRON	A.T.F.220	TQ.DXRON II	Autran DX	Ub-3x	矿物油 Mineral oil

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润滑油加注量 / LUBRICANT FILL QUANTITY

型号 \ 安装方位	B3	B8	B6、B7	V5、V6
NMRV025	0.02			
NMRV030	0.042			
NMRV040	0.081			
NMRV050	0.153			
NMRV063	0.30			
NMRV075	0.58			
NMRV090	1.02			
NMRV110	3.02	2.25	2.55	3.02
NMRV130	4.55	3.35	3.55	4.55
NMRV150	7	5.1	5.4	5.4
PC063	0.05			
PC071	0.07			
PC080	0.15			
PC090	0.16			

型号 \ 安装方位	B3、B5	V3、V6	V1、V5
UDL002	0.13		0.15
UDL005	0.23		0.33
UDL010	0.33	0.43	0.6
UD020	0.8		1
UD030S/L	1.2		1.2

表格规定的加注量为参考值，准确值的变化与传动比和安装方式有关。

The fill quantity in the table is referenced, the exact value relating to the ratio and mounting positions.

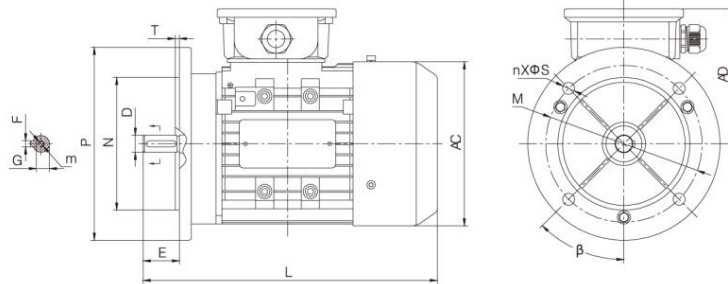
订货须知 / NOTICE FOR ORDERING

- ① 订货时请根据使用需要的转速范围，输出转矩，结构形式，对照性能参数、尺寸表、安装和操作方位图，合理选择机型，写明型号标记（下单时是否带电机请说明，一般按不带电机供应）。订货时选择的安装方位应与安装方法一致，不然容易造成漏油，影响使用寿命，若安装方位特殊请另加说明。
- ② 订货时请选择本目录内的标准产品，如有特殊要求或配用特殊电机请附加说明。
- ① Please refer to the sheet of performance parameter, NMRV series dimensions, Mounting and operation positions diagram, make reasonable choice of model, and write down model mark to your required revolution scope, output torque and structural from on ordering (when ordering, you should show whether the reducers are equipped with motors, otherwise reducers aren't with motors)
- ② Please make the best choice of standard products in this catalogue, and give an additional explanation for your special requirement and motors.

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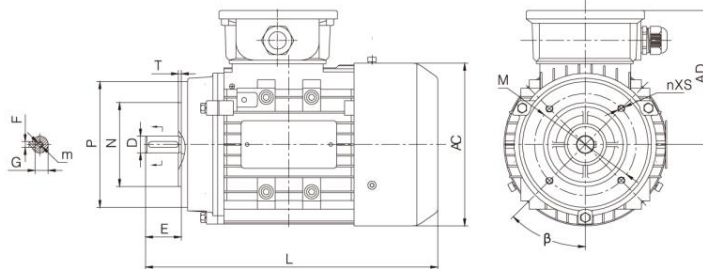
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B5型机座安装型式(B5 MOUNTING POSITION)

机座号 Frame size	电机极数 Motor power			外型尺寸 Forfilomtry					安装尺寸 Mounted size				轴伸尺寸 Shaft extension					
	2P	4P	6P	AC	AD	L	P	N	T	M	S	β	E	F	D	G	m	
	电机功率 Motor poles (KW)																	
56	0.09 0.12	0.06 0.09		113	96	199	120	80	3.0	100	7(n=4)	45°	20	3	9	7.2	M4X12	
63	0.18 0.25	0.12 0.18	0.09 0.12	120	102	217	140	95		115	10(n=4)		23	4	11	8.5		
71	0.37 0.55	0.25 0.37	0.18 0.25	136	109	245	160	110	130		30		5	14	11	M5X12		
80	0.75 1.10	0.55 0.75	0.37 0.55	155	124	287			165	12(n=4)	40		6	19	15.5	M6X16		
90S	1.5	1.1	0.75	175	137	310	200	130	3.5	215	15(n=4)	45°	50	8	24	20	M8X19	
90L	2.2	1.5	1.1			335												60
100L	3	2.2 3.0	1.5	195	151	383	250	180	4.0	265	80		10	38	33	M12X28		
112M	4	4.0	2.2	219	169	401											300	230
132S	5.5 7.5	5.5	3.0	258	188	475	300	230	5.0	300	19(n=4)	45°	80	10	38	33	M12X28	
132M	7.5	7.5	4.0 5.5			513												609
160M	11 15	11	7.5	315	242	609	350	250	5.0	300	19(n=4)		45°	110	12	42	37	M16X36
160L	18.5	15	11			653												



B14型机座安装型式(B14 MOUNTING POSITION)

机座号 Frame size	电机极数 Motor power			外型尺寸 Forfilomtry					安装尺寸 Mounted size				轴伸尺寸 Shaft extension					
	2P	4P	6P	AC	AD	L	P	N	T	M	S	β	E	F	D	G	m	
	电机功率 Motor poles (KW)																	
56	0.09 0.12	0.06 0.09		113	96	199	80	50	2.5	65	M5(n=4)	45°	20	3	9	7.2	M4X12	
63	0.18 0.25	0.12 0.18	0.09 0.12	120	102	217	90	60		75			23	4	11	8.5		
71	0.37 0.55	0.25 0.37	0.18 0.25	136	109	245	105	70	85		30		5	14	11	M5X12		
80	0.75 1.10	0.55 0.75	0.37 0.55	155	124	287	120	80	100	M6(n=4)	40		6	19	15.5	M6X16		
90S	1.5	1.1	0.75	175	137	310	140	95	3.0	115	M8(n=4)	45°	50	8	24	20	M8X19	
90L	2.2	1.5	1.1			335												60
100L	3	2.2 3.0	1.5	195	151	383	160	110	3.5	130	M10(n=4)		45°	60	8	28	24	M10X22
112M	4	4.0	2.2	219	169	401												
132S	5.5 7.5	5.5	3.0	258	188	475	250	180	4.0	215	M12(n=4)	45°		110	12	42	37	M16X36
132M	7.5	7.5	4.0 5.5			513												
160M	11 15	11	7.5	315	242	609	350	250	4.0	215	M12(n=4)		45°	110	12	42	37	M16X36
160L	18.5	15	11			653												