精耕传动

GOLDGUN TRANSMISSIONS

GMRV 系列蜗轮蜗杆减速器

GMRV SERIES WORM SPEED REDUCERS

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基本信息 GENERAL INFORMATION A

GMRV 系列圆柱蜗杆减速器 GMRV SERIES CYLINDRICAL WORM GEAR UNITS B

UDL/TXF 系列行星锥盘无级变速器 UDL/TXF SERIES PLANETARY CONE & DISK STEP-LESS SPEED VARIATOR C

1.0 参数符号对应表 / 1.0 SYMBOLS AND UNITS OF MEASURE

符号 Symbols	单位 Units	注解	Description
P	[kW]	功率	Power
P_1	[kW]	输入功率	Transmitted power at input shaft
P_2	[kW]	输出功率	Transmitted power at output shaft
P_{n1}	[kW]	额定输入功率	Rated input power
M_2	Nm	输出扭矩	Transmitted torque at output shaft
M_{c2}	Nm	计算的输出扭矩	Calculated torque at output shaft
M_{n2}	Nm	额定输出扭矩	Rated torque at output shaft
M_{r2}	Nm	需求的扭矩	Required torque at output shaft
n_1	min^{-1}	输入转速	Angular input speed
n_2	min^{-1}	输出转速	Angular output speed
I	-	减速比	Ratio
η_d	-	动态效率	Dynamic efficiency
η_s	-	静态效率	Static efficiency
Z_1	-	蜗杆齿数	Number of worm thread
M_x	-	轴向模数	Axial modulus
f_s	-	工作系数	Service factor
J_e	kgm^2	在电机轴上衰降的惯性矩	Moment of the external inertia reduced at the drive shaft
J_m	kgm^2	电机惯性矩	Moment of inertia of motor
F_{r1}	N	输入轴径向负荷	Input shaft radial load
F_{r2}	N	输出轴径向负荷	Output shaft radial load

重量标记


机型对应的尺寸图页码

电机

Symbol referring to weight


Columns marked with this symbol indicate the reference page showing the dimensions of the selected unit.

IEC motor

基本信息

下列的标题包含选择减速器的原理以及正确使用它们的方法。

具体的数值参照相应的章节

GENERAL INFORMATION

The following headings contain information on essential elements for selection and correct use of gearbox.
For specific data on the gearbox range,see the relevant chapters.

2.0 输出扭矩

2.1 *额定扭矩*
M_{n2} [Nm]

扭矩作用于连续平稳运转的减速器且在工作系数 $f_s = 1$ 的情况下测出的数值。

2.2 *需求的扭矩*
M_{r2} [Nm]

基于实际所需，数值等于或小于减速器的额定扭矩M_{n2}。

2.3 *计算扭矩*
M_{c2} [Nm]

在选择减速器时有用。
它要考虑实际需求的扭矩 M_{r2} 以及工作系数 f_s ，由以下关系式计算出：

$$M_{c2} = M_{r2} \cdot f_s \leq M_{n2}$$

3.0 功率

3.1 *额定输入功率*
P_{n1} [kW]

减速器安全运转时的功率(kW)值，列于参数表中。它是在速度等于n_1且工作系数 $f_s = 1$ 的情况下得出的。

3.2 *额定输出功率*
P_{n2} [kW]

减速器的输出功率值，可以用下面的公式计算。

$$P_{n2} = P_{n1} \cdot \eta_d$$

$$P_{n2} = \frac{M_{n2} \cdot n_2}{9550}$$

4.0 效率

效率是影响某些应用的主要因素，它的值基本由齿轮副设计的参数决定。

在第21页上的啮合参数表上记录了动态及静态效率值(n_1=1400)。

注意这些值只适用于磨合完成的在工作温度下运转的减速箱

2.0 OUTPUT TORQUE

2.1 *Rated output torque*
M_{n2} [Nm]

The torque that can be transmitted continuously through the output shaft, with the gear unit operated under a service factor $f_s = 1$.

2.2 *Required torque*
M_{r2} [Nm]

The torque demand based on application requirement. It is recommended to be equal to or less than torque M_{n2} the gearbox under study is rated for.

2.3 *Calculated torque*
M_{c2} [Nm]

Computational torque value to be used when selecting the gearbox.
It is calculated considering the required torque M_{r2} and service factor f_s, as per the relationship here after:

3.0 POWER

3.1 *Rated input power*
P_{n1} [kW]

The parameter can be found in the gearbox rating charts and represents the KW that can be safely transmitted to the gearbox, based on input speed n1 and service factor $f_s = 1$.

3.2 *Rated output power*
P_{n2} [kW]

This value is the power transmitted at gearbox output. it can be calculated with the following formulas:

4.0 EFFICIENCY

Efficiency is a parameter which has a major influence on the sizing of certain applications, and basically depends on gear pair designelements. The mesh data table on page 21 shows dynamic efficiency (n_1=1400) and static efficiency values.
Remember that these values are only achieved after the unit has been run in and is at the working temperature.

4.1 *动态效率*
[η_d]

动态效率和输出功率 P_2 以及输入功率 P_1 的关系：

4.2 *静态效率*
[η_s]

在减速器刚启动时的效率。虽然对连续传动没有实际的意义，但在选择断续传动的减速器时却十分重要。

5.0 工作系数
[f_s]

减速器的工作系数(f_s)主要取决于减速机的运行条件，为了选择最合适的工作环境系数进行正确的组合，必须考虑如下因素：

1. 减速器的负载形式：**A - B - C**
2. 工作时间：**小时 / 天(△)**
3. 开机频率：**次 / 小时(*)**

负载类型：**A** - 均衡负荷，$f_s \leq 0.3$
B - 中等冲击，$f_s \leq 3$
C - 严重冲击，$f_s \leq 10$

$f_s = J_e / J_m$
–J_e (kgm^2)：在驱动轴上衰降的惯性矩
–J_m (kgm^2)：电机惯性矩
–如果f_s>10时请与技术服务部联系

A –轻质材料螺旋输送机，风扇，装配线，轻质材料皮带输送机，小型搅拌机，提升机，清洁机，灌装机，控制器。

B –卷绕装置，木工机械，货物提升机，平衡器，螺纹机，介质搅拌机，重型材料皮带输送机，绞盘，移动门，刮机，包装机，混凝土搅拌机，起重机，磨割机，卷板机，齿轮泵。

C –重型材料搅拌机，剪切机，压力机，离心机，旋转支撑，重型材料绞盘和提升机，磨床，石材，升降机，钻孔机，锤式粉碎机，凸轮压力机，折叠机，运输带，翻斗车，振动器，撕碎机。

4.1 *Dynamic efficiency*
[η_d]

The dynamic efficiency is the relationship of power delivered at output shaft P_2 to power applied at input shaft P_1:

$$\eta_d = \frac{P_2}{P_1}$$

4.2 *Static efficiency*
[η_s]

Efficiency obtained at start-up of the gearbox. Although this is generally not significant factor for helical gears, it may be instead critical when selecting worm gearmotors operating under intermittent duty.

5.0 SERVICE FACTOR
[f_s]

The service factor (f_s) depends on the operating conditions the gearbox is subjected to the parameters that need to be taken into consideration to select the most adequate servies factor correctly comprise:
1. type of load of the operated machine : **A - B - C**
2. length of daily operating time: **hours/day(△)**
3. start-up frequency: **starts/hour (*)**

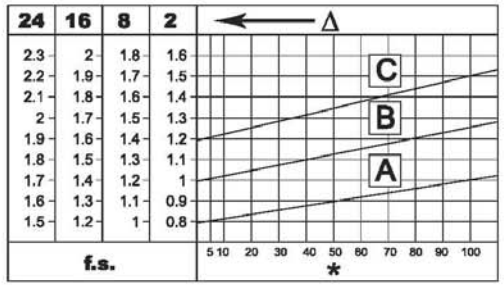
TYPE OF LOAD: **A** - uniform, $f_s \leq 0.3$
B - moderate shocks, $f_s \leq 3$
C - heavy shocks, $f_s \leq 10$

$f_s = J_e / J_m$
–J_e (kgm^2) moment of the external inertia reduced at the drive shaft
–J_m (kgm^2) moment of inertia of motor
–If f_s>10 please contact our Technical Service

A -Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.

B -Winding devices, woodworking machine feeders, goods lifts, balancers,threading machines, medium mixers, conveyor belts for heavy materials,winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

C -Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.



6.0 应用限制

样本的参数基本上是针对B3或相似的安装方位给出的，就是第一级没有完全浸没在油中。对于其他安装方位和特定输入转速，请参阅以下突出每个减速机不同关键情形的表格。

以下应用情形应仔细评估，如有必要可致电我们的技术服务人员。

1. 提高转速时；
2. 使用时如果减速器故障会带来人员危险时；

3. 有极高惯性的应用场合；
4. 用作升降机绞盘；
5. 在减速器外壳上有高动态应力的应用场合；
6. 温度低于-5°C或高于 40°C 时；
7. 在有化工物质腐蚀的环境中使用；
8. 在盐性环境中使用；
9. 未在样本中示出的安装方位放置；
10. 在放射性环境中使用；
11. 在压力不同于大气压的环境中使用。

避免减速器局部或整台浸入液体或其他物质中。

减速器可以承受的最大扭矩(*)不得超过性能表中列出的额定扭矩(f.s.=1)的两倍。

(*) 指的是在过载启动、制动、振动或其他原因造成的瞬间过载，特别是瞬间动态过载。

6.0 Critical applications

The performance given in the catalogue correspond to mounting position B3 or similar, ie. when the first stage is not entirely immersed in oil. For other mounting positions and/or particular input speeds, refer to the tables that highlight different critical situations for each size of gear unit.

It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service.
1. As a speed increasing
2. Application that could be hazardous for people if the reduction unit fails
3. Applications with especially high inertia
4. Application as a lifting winch
5. Application with an high dynamic strain on the case of the gear unit
6. In places with temperatures under -5°C or over 40°C
7. Use in chemically aggressures enviroments
8. Use in salty enviroment
9. Mounting position is not envisaged in the catalogue
10. Use in radioactive enviroment
11.Use in enviroments pressure other than atmospheric pressure

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.

GMRV	025	030	040	050	063	075	090	110	130	150
V5:1500<n1<3000	-	-	-	-	-	B	B	B	B	B
n1>3000	B	B	B	B	B	A	A	A	A	A
V6	B	B	B	B	B	B	B	B	B	B

A：不建议使用的方式
B：需检查应用的合适性或者请联系我们的技术服务部

A: Application not recommended
B: Check the application and/or call our technical service

7.0 安装

安装减速器必须注意以下几点：

1. 必须稳定地安装在机器上，避免有任何松动。
2. 在把减速器固定于机器上之前，检查减速器输出轴的正确的旋转方向。

3. 在长期的储存情况下（4-6个月），一旦油封没有浸没在减速器的润滑油中，橡胶可能会粘住主轴甚至失去弹性，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。

4. 安装空心轴时，应采用专用力矩扳手。如果无该条件时，用户可自行选用专用工具，但应确保轴向不受力，减速器可自由移动。

5. 尽可能避免减速器在阳光下直照或暴露恶劣气候下。

6. 确保电机风扇边的空气有良好的通道, 以求有足够的冷却。

7. 当使用时的绝对温度<-5°C或>40°C时，先与我们技术服务人员联系。

8. 各种零件（滑轮、齿轮、联轴器、轴等）必须安装在实心或空心轴上，该用专用的螺纹孔或其它工具以确保正确安装而不会损坏轴承或减速器外端的所有零件. 并以润滑油来润滑接触表面避免卡死或氧化。

9. 橡胶零件以及透气孔上不能沾有油漆。

10. 当遇见配有油塞的减速器时，把运输专用的塞子拆掉，再装上排气塞。

11. 通过油视镜检查润滑油油量是否足够。

12. 使用新减速器时, 应该逐步加载负荷, 不要立即提升到最大的负载。

13. 如有任何在减速器旁的零件、物体或材料会因漏出的油而遭损坏时，应安装特殊的保护或遮挡。

8.0 电机与PAM法兰之连接

当仅购买减速器时，必须按照以下建议与已有的电机来组合，以确保正常的使用。
1. 参照相关标准来检查电机的轴和法兰在安装时是否有过大的误差。

2. 仔细清洁轴、连轴器和法兰表面，擦除污垢和灰尘。

3. 小心安装轴，保证轴和轴孔的配合，避免力度过大而导致损坏. 必要时使用专用工具来进行.

4. 去除毛刺，电机键槽的位置和偏差要在规定的范围之内。

5. 用润滑油来润滑接触表面避免卡死或氧化。

9.0 无级变速器的使用和保养

1. 机械无级变速器不宜用于可能超负载或堵转使用场合。

2. 调整应在运转中进行，严禁停车时转动调整手轮。

3. 操作盒下的两端调整限位螺钉已调整好，请勿再动。

4. 本机不宜工作在高于40°C的环境中，温升不得高于50°C。

5. 出厂前已加足润滑油，首次使用1000小时后应更换润滑油，以后每5000小时换一次油。

6. 变速器内润滑油应保持在油标三分之二高度，用户应经常检查油位高度。严禁在润滑不良的情况下使用。

7. 操作盒上的透气螺母出厂时为防止搬运中漏油已旋紧，运转时须松开，禁止未松开使用。

7.0 INSTALLATION

To install the reduction unit it is necessary to note the following recommendations:
1. The mounting on the machine must be stable to avoid any vibration.
2. Check the correct direction of rotation of the reduction unit output shaft before fitting the unit to the machine.
3. 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.
4. For a shaft mounting, for reduction units with a hollow output shaft, use the torque arms we can supply. If this is not possible, make sure that the constraint is axially free and with such play as to ensure free movement for the reduction unit.
5. Whenever possible, protect the reduction unit against solar radiation and bad weather.
6. Ensure the motor cools correctly by assuring good passage of air from the fan side.
7. In the case of ambient temperatures < -5°C or > +40°C call the Technical Service.
8. The various parts (pulleys, gear wheels, couplings, shafts, etc.) must be mounted on the solid or hollow shafts using special threaded holes or other systems that anyhow ensure correct operation without risking damage to the bearings or external parts of the units. Lubricate the surfaces in contact to avoid seizure or oxidation.
9. Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
10. For units equipped with oil plugs, replace the closed plug used for shipping with the special breather plug.
11. Check the correct level of the lubricant through the indicator, if there is one.
12. Starting must take place gradually, without immediately applying the maximum load.
13. When there are parts, objects or materials under the motor drive that can be damaged by even limited spillage of oil, special protection should be fitted.

8.0 MOTOR MOUNTING WITH PAM FLANGE

When the unit is supplied without motor, it is necessary to follow these recommendation to ensure the correct assembly of the electric motor.
1. Check that the tolerances for the motor shaft and flange correspond to the standard.
2. Carefully clean the shaft, couplings and surfaces of the flange removing traces of paint and dirt, and confirm the key is fitted correctly.
3. Fit the half coupling to the motor shaft taking care to ensure the motor shaft and bearings are not damaged by avoiding excessive force and where necessary using assembly equipment.
4. Complete the assembly using the fixing bolts. Key-ways with tightened tolerances.
5.Lubricate the surfaces in contact to avoid seizure or oxidation.

9.0 OPERATION & MAINTENANCE OF SPEED VARIATOR

1. The mechanical stepless speed variator is not used in such an occasion where overload or running-blockage happen to occur.
2. Speed-regulation should be effected in running. Do not turn the hand wheel of speed-regulation when the machine stops!
3. The limit screws of speed-regulation on two ends under the operating box are well adjusted, Please don't touch them!
4. This set is not suited to work in the environment over 40°C, especially no more than 50°C when the temperature rises.
5. The machine is filled with lubricating oil before leaving factory. When it starts to work up to 1000 hours for the first time, its lubricating oil should be replaced, changing the lubricating oil every 5000 hours later.
6. 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.
7. The air screw nut on the operating box is screwed up for preventing from oil leakage in moving before leaving factory. It should be loosed when it starts to run. It is strictly forbidden to use it before loosing!

10.0 润滑油

10.1 *润滑油说明*

如在图表中不能查到对应的温度，请与我们技术服务人员联系。
如果温度低于-30°C或高于60°C时，必须使用特殊油封。

如果在注油时的温度低于0°C时，必须注意以下几点：

1. 电机选型必须符合周围环境与工作条件。

2. 电机的功率选择必须考虑到在寒冷天气时较大的起动扭矩.

3. 铸铁外壳的减速器要避免忽然承受过重的冲击负载，因为在-15°C或以下时铸铁的物理性能可能会变得较脆。

4. 在刚开始使用时，可能会出现润滑油的问题，因为新的润滑油的粘度较高，因此推荐先让减速器在空载情况下运行几分钟才开始加载. 润滑油在使用大约10. 000时后必须更换，但也要视减速机的具体工作环境而定。对于没有注油孔的减速器来说，是永远不需要更换润滑油的.

10.0 LUBRICATION

10.1 *Specifications of lubricants*

In cases of ambient temperatures not envisaged in the table, call our Technical Service.In the case of temperatures under -30°C or over 60°C it is necessary to use oil seals with special properties.
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. The power of the electric motor needs to be adequate for exceeding the higher starting torques required.
3. 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.
4. 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.For units supplied without oil plugs, lubrication is permanent and so they need no servicing.

10.2 *推荐的润滑油*

10.2 *Specifications of lubricants recommended*

	GMRV**110-150**		GMRV**025-090** **PC 063-090**	**UDL 002-100** **TXF 005-010**
	Mineral oil 矿物油		Synthetic oil 合成油	Mineral oil 矿物油
T°C	(-5) - (+40)	(-15) - (+25)	(-25) - (+50)	(-25) - (+50)
ISO	ISO VG460	ISO VG220	ISO VG320	VG32
广研润滑	CKE460	CKE320		UB-3
AGIP	BLASIA 460	BLASIA 220	TELIUM VSF320	A.T.F. DEXRON
SHELL	OMALA OIL460	OMALA OIL220	TIVELA OIL SC320	A.T.F. DEXRON
ESSO	SPARTAN EP460	SPARTAN EP220	S220	A.T.F. DEXRON
MOBIL	MOBILGEAR 634	MOBILGEAR 630	GLYGOYLE 30	A.T.F. 220
CASTROL	ALPHA MAX 460	ALPHA MAX 220	ALPHASYN PG320	TQ DEXRON II
BP	ENERGOL GR-XP460	ENERGOL GR-XP220	ENERGOL SG-XP320	AUTRAN DX

润滑油的具体加注量请参考相关的页面

For the quantity of oil,please refer to the pages relating

10.3 *润滑油加注量(升)*

10.3 *Q.ty of oil in litres*

GMRV	025	030	040	050	063	075	090	110	130	150
B3	0.02	0.04	0.08	0.15	0.3	0.55	1	3	4.5	7
B8								2.2	3.3	5.1
B6-B7								2.5	3.5	5.4
V5								3	4.5	7
V6								2.2	3.3	5.1

PC	063	071	080	090
	0.05	0.07	0.15	0.16

UDL/TXF	UDL002	UDL005	UDL010	UD020	UD030/050	UD100	TXF005	TXF010
B3	0.13	0.15	0.33	1.2	2	3.5	0.13	0.4
B8								
B6-B7								
V1	0.2	0.25	0.45	1.5	2.5	4	0.33	0.75
V3								

- 减速器NMRV025-030-040-050-063-075-090 出厂时均已加注合成润滑油，安装方式可参照样本相关页中所示方位。仅075, 090采用V5/V6的安装方式较特殊，如需要使用V5/V6的安装方式时请与技术服务人员联系以确定实际情况。

- 减速器NMRV110-130和150均提供了矿物润滑油。

- 当减速器型号为110-130和150时，必须预先在订货时说明安装位置。否则出厂时只会按照B3位置去提供相应数量的润滑油。

- 仅型号为110-130 和150 的减速器配备排气装置、油镜和排油塞。在安装完毕后，必须拿掉油塞及装上排气装置。

- 前置减速器 PC 已经预先注入了润滑油 AGIP TELIUM VSF ，可以根据说明书的位置随意安装，它的润滑油系统是独立的。

- 无级变速器在出厂时均已加注了矿物润滑油, 广研UB-3。

- The reduction units size 025-030-040-050-063-075-090 are supplied complete with lubricant for life, synthetic oil, and can therefore be mounted in any position envisaged in the catalogue. The only exceptions are 075,090 in pos. V5/V6 for which you should call our Technical Service to assess the conditions of use.

- The reduction units size 110-130 and 150 are supplied complete with lubricant, mineral oil.

- For sizes 110-130 and 150 it is necessary to specify the position, otherwise the reduction units are supplied with the quantity of oil relating to pos. B3.

- Only reduction units 110-130 and 150 are fitted with breather, level and oil drainage plugs. It is necessary, after installation, to replace the closed plug used for transportation with the breather plug supplied with the unit.

- The pre-stage helical modules are supplied complete with life-long lubricant, synthetic oil,AGIP TELIUM VSF, and can therefore be mounted in all the positions. Lubrication is separated from that of the worm reduction unit.

The speed variator are supplied complete with lubricant, mineral oil,GUANGYAN UB-3.

11.0 PC的设计特点

PC 结构是一种标准组件(模块)的产品，因此它可与任何型号的齿轮电机组合，组合使用时，各种不同的法兰/输出轴可以参见第17页。

前置减速装置主要适合用于安装方式为B14的所有马达。

该装置不能单独使用，只能与减速机配套使用。

材料

压铸铝合金外壳
回火钢20CrMnTi表层硬化齿轮，精密渐开线齿形。

11.0 Design features (PC)

The PC construction is modular and therefore it can be supplied as separate unit to be mounted on any type of fitted geared motor (PAM). In this connection, the various possibilities of flange/output shafts canbe found on page 17.
Fitting the pre-stage helical module on the main reduction unit is easilydone as for any motor of type B14.
The pre-stage unit cannot be used by itself, but only coupled withanother reduction unit.

Materials

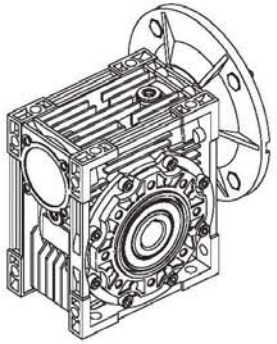
Case in aluminium alloy.
Gears in case hardened, tempered steel 20CrMnTi accurately ground on the involute.

基本信息 GENERAL INFORMATION A

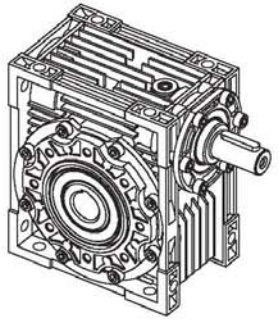
GMRV系列圆柱蜗杆减速器 GMRV SERIES CYLINDRICAL WORM GEAR UNITS B

UDL/TXF 系列行星锥盘无级变速器 UDL/TXF SERIES PLANETARY CONE & DISK STEP-LESS SPEED VARIATOR C

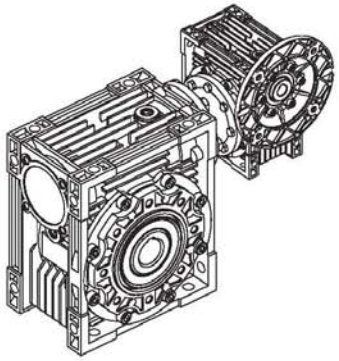
GMRV系列圆柱蜗杆减速器
GMRV SERIES CYLINDRICAL WORM GEAR UNITS



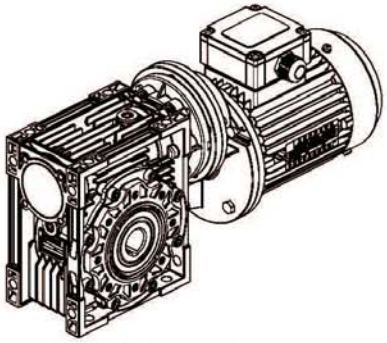
GMRV



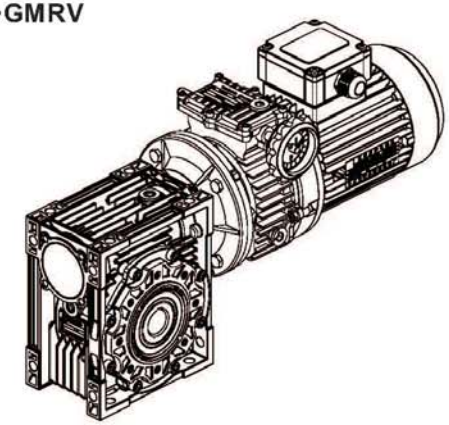
GRV



GMRV+GMRV



PC+GMRV



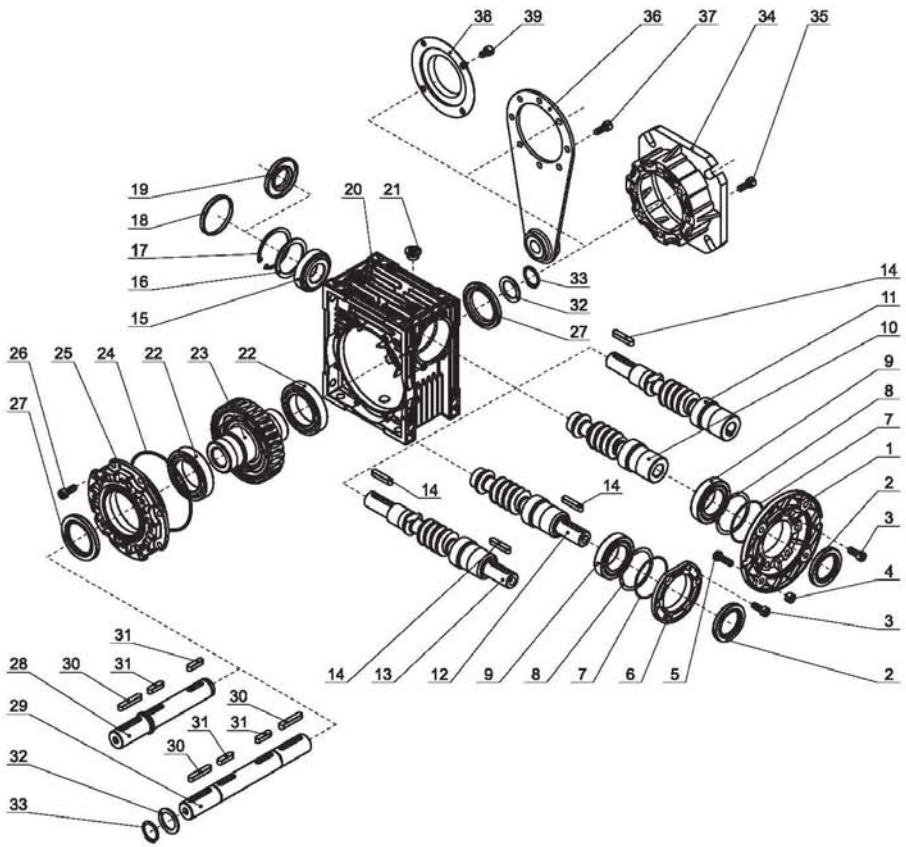
UDL(TXF)+GMRV

1.0 结构分解图和机型版本

1.0 EXPLODED VIEW AND VERSIONS

1.1 GMRV结构分解图

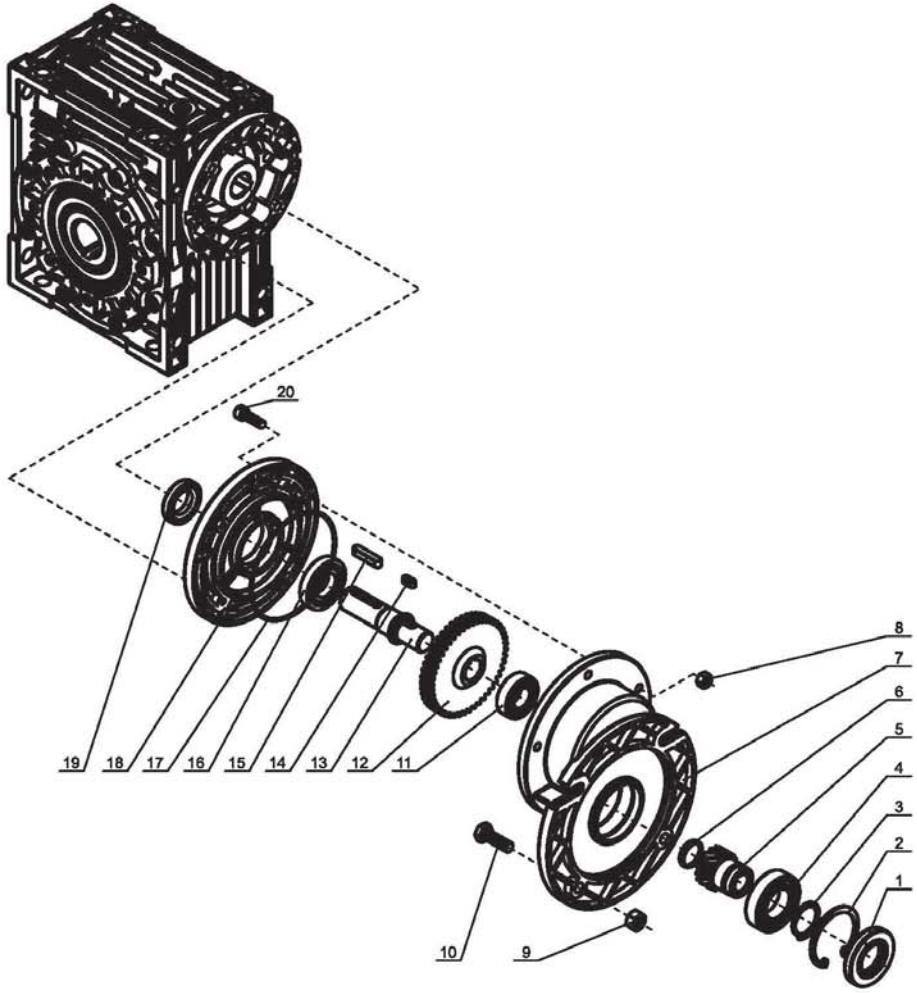
1.1 GMRV *Exploded view*



1	电机法兰 Flange PAM	11	孔输入轴输入蜗杆 Double ext. PAM worm	21	油塞 Plug cock	31	平键 Parallel key
2	油封 Oil seal	12	轴输入蜗杆 RV worm	22	轴承 Bearing	32	垫圈 Washer
3	内六角圆柱头螺钉 Hexagon socket head cap screw	13	双轴输入蜗杆 Double ext. RV worm	23	蜗轮 Worm wheel	33	轴用弹性挡圈 Circlip for shaft
4	六角螺母 Hexagon nuts	14	平键 Parallel key	24	O形橡胶密封圈 O-ring	34	输出法兰 Output flange
5	六角头螺栓 Hexagon bolt	15	轴承 Bearing	25	侧盖 Bearing support cover	35	内六角圆柱头螺钉 Hexagon socket head cap screw
6	输入端盖 Gear unit cover	16	垫圈 Washer	26	内六角圆柱头螺钉 Hexagon socket head cap screw	36	扭力臂 Torque arm
7	O形橡胶密封圈 O-ring	17	孔用弹性挡圈 Circlip for hole	27	油封 Oil seal	37	内六角圆柱头螺钉 Hexagon socket head cap screw
8	调整垫片 Spacer shim	18	盖子 Cap	28	单向输出轴 Single output Shaft	38	保护盖 Protection cap
9	轴承 Bearing	19	油封 Oil seal	29	双向输出轴 Double output Shaft	39	内六角圆柱头螺钉 Hexagon socket head cap screw
10	孔输入蜗杆 PAM worm	20	箱体 Case	30	平键 Parallel key		

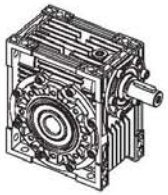
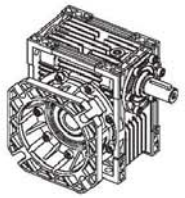
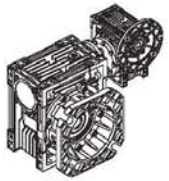
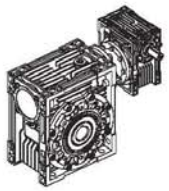
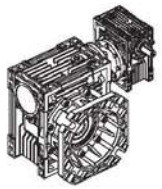
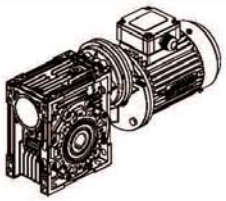
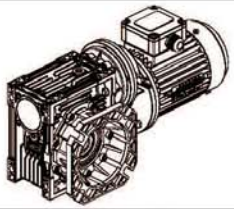
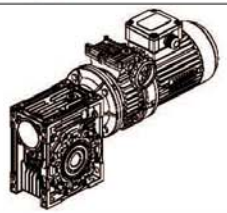
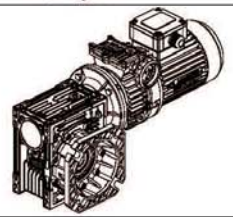
1.2 PC 结构分解图

1.2 PC *Exploded view*



1	油封 Oil seal	6	盖子 Cap	11	轴承 Bearing	16	轴承 Bearing
2	孔用弹性挡圈 Circlip for hole	7	前置齿轮箱体 Pre-stage unit case	12	大齿轮 Gear	17	O形橡胶密封圈 O-ring
3	轴用弹性挡圈 Circlip for shaft	8	六角螺母 Hexagon nuts	13	输出轴 Low speed shaft	18	输出端盖 Output cover
4	轴承 Bearing	9	六角螺母 Hexagon nuts	14	平键 Parallel key	19	油封 Oil seal
5	孔输入小齿轮 Hollow pinion	10	六角头螺栓 Hexagon bolt	15	平键 Parallel key	20	内六角圆柱头螺钉 Hexagon socket head cap screw

1.3 蜗杆减速器机型版本　　1.3 *Versions*

	GMRV 025 - 150	GMRV 025 - 150 F	
	GRV 025 - 150	GRV 025 - 150 F	
	GMRV-GMRV 025/030 - 063/150	GMRV-GMRV 025/030 - 063/150 F	
	GRV-GMRV 025/030 - 063/150	GRV-GMRV 025/030 - 063/150 F	
	PC-GMRV 063/040 - 090/130	PC-GMRV 063/040 - 090/130 F	
	UDL(TXF)-GMRV 002/040 - 050/130	UDL(TXF)-GMRV 002/040 - 050/130 F	

2.0 产品名称

2.1 GMRV-GRV
蜗杆减速器

类型 Type	减速比 Ratio	双向输入轴 Double input shaft	输出 Ouput	输入法兰 Input flange	安装方位 Mounting position	颜色 Color	电机 Electric motor

GMRV063 - 30 - VS - FA1-ASR-A1 - 80B5 - B3 - B - $Y_2$0.75-4 / 1

- 蜗杆减速器类型/Worm gearbox type
  - GMRV= 带电机接口蜗杆减速器
  - GMRV= Worm-gear unit with IEC motor interface
  - GRV= 轴输入蜗杆减速器
  - GRV= Worm speed reducer with solid input shaft
- 减速器尺寸(中心距)/Gearbox size(Central distance)
  025, 030, 040, 050, 063, 075, 090, 110, 130, 150
- 减速比/Reduction ratio
  5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100
- 双向输入轴
  Double intput shaft
- 输出法兰/Flange mounting
  FA, FB, FC, FD, FE (型号/Version)
  1, 2 (安装位置/Mounting side)
- 输出轴/Output shaft
  ASL, ASR (单向输出轴/Single output shaft)
  AB (双向输出轴/Double output shaft)
- 扭力臂/Torque arm
  A1, A2
- 输入法兰(电机类型)/Input flange(Motor mounting)
  B5, B14
- 安装方位/Mounting position
  B3, B6, B7, B8, V5,V6
- 颜色/Color
  B = 银灰色/Silver gray **L** = 蓝色/Blue
- 电机类型/Type
  Y_2, YD,YVF, Y_2EJ.....
- 电机功率
  Motor power
- 电机极数/Poles number
  2, 4, 6 , 8.....
- 电机接线盒位置
  Position of terminal box
  1, 2, 3, 4

2.0 DESIGNATION

2.1 GMRV-GRV
Worm speed reduction unit

2.2 ***PC+***GMRV
前置齿轮蜗杆减速器

前置斜齿轮减缺 Pre-stage helical unit	类型 Type	减速比 Ratio	双向输入轴 Double input shaft	输出法兰 Ouput flange	输出轴 Ouput shaft	安装方位 Mounting position	电机 Electric motor

PC 071 - GMRV063 - 30 - VS - FA1 - ASR - B3 - $Y_2$0.37-4 / 1

- 前置一级斜齿轮减速箱
  Pre-stage helical module
- 减速器尺寸/Gearbox size
  063, 071, 080, 090
- 蜗杆减速器类型/Worm gearbox type
  GMRV= 带电机接口蜗杆减速器
  GMRV= Worm-gear unit with IEC motor interface
- ..... (选项)
  (Options)

2.2 ***PC+***GMRV
Worm geared motors with Pre-stage helical unit

2.3 GMRV+GMRV-GRV+GMRV
双蜗杆减速器

2.3 GMRV+GMRV-GRV+GMRV
Combination worm-gear unit

类型 Type	减速比 Ratio	双向输入轴 Double input shaft	输出法兰 Ouput flange	输出轴 Ouput shaft	输入法兰 Input flange	安装方位 Mounting position	电机 Electric motor
GMRV040/090	- 500	- VS	- FA1	- ASR	- 71B5	- AS1	- $Y_2$0.37-4 / 1

- GMRV040/090 — 蜗杆减速器类型/Worm gearbox type
  - GMRV=GMRV+GMRV 带电机接口蜗杆减速器
  - GMRV=GMRV+GMRV Worm-gear unit with IEC motor interface
  - GRV= GRV+ GMRV 轴输入蜗杆减速器
  - GRV= GRV+ GMRV Worm speed reducer with solid input shaft
- 500 — 减速比/Reduction ratio
  300, 400, 500, 600 .....
- 040/090 — 减速器尺寸(中心距)/Gearbox size(Central distance)
  025/030 - 063/150
- VS — ..... (选项) (Options)
- AS1 — 安装方位/Mounting position
  AS1, AS2, BS1, BS2, VS1, VS2, PS1, PS2
- $Y_2$0.37-4 / 1 — ..... (选项) (Options)

2.4 *UDL+GMRV*
无级变速器和蜗杆减速器组合

2.4 *UDL+GMRV*
Combination of Stepless speed variator and Worm-gear unit

无级变速器 Stepless speed variator	类型 Type	减速比 Ratio	双向输入轴 Double input shaft	输出法兰 Ouput flange	输出轴 Ouput shaft	安装方位 Mounting position	电机 Electric motor
UDL 010	-GMRV063	- 30	- VS	- FA1	- ASR	- B3	- $Y_2$0.75-4 / 1

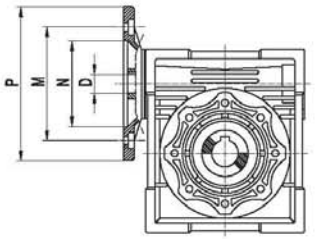
- UDL 010 — 无级变速器类型/Stepless speed variator type
  UDL, UD 系列 (UDL= 铝合金壳体, UD= 铸铁壳体)
  UDL, UD Series (**UDL=** Aluminium alloy housing, **UD=** Cast iron housing)
  TXF 系列
  TXF Series
- 010 — 无级变速器尺寸/Stepless speed variator size
  002, 005, 010, 020, 030 ,050 ,100
- GMRV063 — 蜗杆减速器类型/Worm gearbox type
  - GMRV= 带电机接口蜗杆减速器
  - GMRV= Worm-gear unit with IEC motor interface
- 30 — 减速比/Reduction ratio
  5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100
- VS — ..... (选项) (Options)

3.0 配置和组合

3.0 DISPOSITION AND COMBINATIONS

3.1 GMRV基本配置

3.1 GMRV *Pre-disposition*

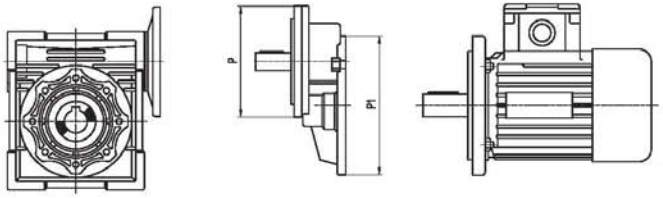


GMRV	PAM / IEC	N	M	P	D											
					5	7.5	10	15	20	25	30	40	50	60	80	100
025	56B14	50	65	80	9	9	9	9	9	-	9	9	9	9	-	-
030	63B5	95	115	140	11	11	11	11	11	11	11	11	11	-	-	-
	63B14	60	75	90												
	56B5	80	100	120	9	9	9	9	9	9	9	9	9	9	9	-
	56B14	50	65	80												
040	71B5	110	130	160	14	14	14	14	14	14	14	14	-	-	-	-
	71B14	70	85	105												
	63B5	95	115	140	11	11	11	11	11	11	11	11	11	11	11	11
	63B14	60	75	90												
	56B5	80	100	120	-	-	-	-	-	-	-	-	9	9	9	9
050	80B5	130	165	200	19	19	19	19	19	19	19	-	-	-	-	-
	80B14	80	100	120												
	71B5	110	130	160	14	14	14	14	14	14	14	14	14	14	14	-
	71B14	70	85	105												
	63B5	95	115	140	-	-	-	-	-	-	-	11	11	11	11	11
063	90B5	130	165	200	-	24	24	24	24	24	24	-	-	-	-	-
	90B14	95	115	140												
	80B5	130	165	200	-	19	19	19	19	19	19	19	19	19	-	-
	80B14	80	100	120												
	71B5	110	130	160	-	-	-	-	-	-	-	14	14	14	14	14
	71B14	70	85	105												
075	100/112B5	180	215	250	-	28	28	28	-	-	-	-	-	-	-	-
	100/112B14	110	130	160												
	90B5	130	165	200	-	24	24	24	24	24	24	24	-	-	-	-
	90B14	95	115	140												
	80B5	130	165	200	-	-	-	-	19	19	19	19	19	19	19	19
	80B14	80	100	120												
	71B5	110	130	160	-	-	-	-	-	-	-	-	14	14	14	14
090	100/112B5	180	215	250	-	28	28	28	28	28	28	-	-	-	-	-
	100/112B14	110	130	160												
	90B5	130	165	200	-	24	24	24	24	24	24	24	24	24	-	-
	90B14	95	115	140												
	80B5	130	165	200	-	-	-	-	-	-	-	19	19	19	19	19
	80B14	80	100	120												
110	132B5	230	265	300	-	38	38	38	38	-	-	-	-	-	-	-
	100/112B5	180	215	250	-	28	28	28	28	28	28	28	28	28	-	-
	90B5	130	165	200	-	-	-	-	-	24	24	24	24	24	24	24
	80B5	130	165	200	-	-	-	-	-	-	-	-	-	-	19	19
130	132B5	230	265	300	-	38	38	38	38	38	38	38	-	-	-	-
	100/112B5	180	215	250	-	-	-	-	-	28	28	28	28	28	28	28
	90B5	130	165	200	-	-	-	-	-	-	-	-	-	-	24	24
150	160B5	250	300	350	-	42	42	42	42	42	-	-	-	-	-	-
	132B5	230	265	300	-	-	-	-	38	38	38	38	38	38	-	-
	100/112B5	180	215	250	-	-	-	-	-	-	-	-	28	28	28	28

3.2 PC+GMRV组合方式

3.2 PC+GMRV Possible combinations

GMRV		PC063		PC071		PC080			PC090		
	IEC	105/11	105/14	120/14	120/19	160/19	160/24	160/28	160/19	160/24	160/28
	i	i=2.93	i=2.93	i=2.94	i=2.94	i=3	i=3	i=3	i=2.45	i=2.45	i=2.45
040	25	■	■								
	30	■	■								
	40	■									
	50	■									
	60	■									
	80	■									
	100	■									
050	25		■	■	■						
	30		■	■	■						
	40	■	■	■							
	50	■	■	■							
	60	■	■	■							
	80	■	■	■							
	100	■									
063	25				■						
	30				■						
	40		■	■	■						
	50		■	■	■						
	60		■	■	■						
	80		■	■							
	100		■	■							
075	25				■	■	■	■	■	■	
	30				■	■	■	■	■	■	
	40				■	■	■	■	■	■	
	50			■	■	■	■	■	■	■	
	60			■	■	■	■	■	■	■	
	80			■	■	■	■	■	■	■	
	100			■	■	■	■	■	■	■	
090	25						■	■		■	■
	30						■	■		■	■
	40				■	■	■	■	■	■	
	50				■	■	■	■	■	■	
	60				■	■	■	■	■	■	
	80				■	■	■	■	■	■	
	100				■	■	■	■	■	■	
110	25						■	■		■	■
	30						■	■		■	■
	40						■	■		■	■
	50						■	■		■	■
	60						■	■		■	■
	80						■	■	■	■	
	100						■	■	■	■	
130	25							■			■
	30							■			■
	40							■			■
	50							■			■
	60							■			■
	80						■	■		■	■
	100						■	■		■	■



	P1	P	(P)
PC 063	63B5-140/11	105/11	(105/14)
PC 071	71B5-160/14	120/14	(120/19)
PC 080	80B5-200/19	160/19	(160/24)
			(160/28)
PC 090	90B5-200/24	160/24	(160/19)
			(160/28)

(.)根据用户要求定制
(.) Only on request

3.3 GMRV+GMRV组合方式

3.3 GMRV+GMRV Possible combinations

	I	n_2	IEC motor	I_1	I_2
GMRV 025/030	100	14	56	10	10
	150	9.3		10	15
	200	7		10	20
	250	5.6		10	25
	300	4.7		10	30
	400	3.5		20	20
	500	2.8		20	25
	600	2.3		20	30
	750	1.9		30	25
	900	1.6		30	30
	1200	1.2		40	30
	1500	0.93		50	30
	1800	0.78		60	30
	2400	0.58		60	40
	3000	0.47		60	50
GMRV 025/040	300	4.7	56	10	30
	400	3.5		10	40
	500	2.8		20	25
	600	2.3		20	30
	750	1.9		30	25
	900	1.6		30	30
	1200	1.2		40	30
	1500	0.93		50	30
	1800	0.78		60	30
	2400	0.58		60	40
	3000	0.47		60	50
	4000	0.35		50	80
	5000	0.28		50	100
GMRV 030/040	300	4.7	56	10	30
	400	3.5		10	40
	500	2.8		20	25
	600	2.3		20	30
	750	1.9		25	30
	900	1.6		30	30
	1200	1.2		30	40
	1500	0.93		50	30
	1800	0.78		60	30
	2400	0.58		60	40
	3200	0.44		80	40
	4000	0.35		50	80
	5000	0.28		50	100
GMRV 030/050	300	4.7	56 63	10	30
	400	3.5		10	40
	500	2.8		10	50
	600	2.3		20	30
	750	1.9		25	30
	900	1.6		30	30
	1200	1.2		30	40
	1500	0.93		50	30
	1800	0.78		60	30
	2400	0.58		60	40
	3000	0.47		60	50
	4000	0.35		50	80
	4800	0.29		60	80
GMRV 030/063	300	4.7	56 63	7.5	40
	400	3.5		10	40
	500	2.8		10	50
	600	2.3		15	40
	750	1.9		15	50
	900	1.6		15	60
	1200	1.2		30	40
	1500	0.93		30	50
	1800	0.78		30	60
	2400	0.58		60	40
	3000	0.47		60	50
	4000	0.35		50	80
	5000	0.28		50	100

	I	n_2	IEC motor	I_1	I_2
GMRV 040/075	300	4.7	56 63 71	10	30
	400	3.5		10	40
	500	2.8		10	50
	600	2.3		20	30
	750	1.9		25	30
	900	1.6		30	30
	1200	1.2		30	40
	1500	0.93		50	30
	1800	0.78		60	30
	2400	0.58		60	40
	3000	0.47		60	50
	4000	0.35		50	80
	5000	0.28		50	100
GMRV 040/090	300	4.7	56 63 71	7.5	40
	400	3.5		10	40
	500	2.8		10	50
	600	2.3		15	40
	750	1.9		15	50
	900	1.6		15	60
	1200	1.2		30	40
	1500	0.93		30	50
	1800	0.78		30	60
	2400	0.58		60	40
	3000	0.47		60	50
	4000	0.35		50	80
	5000	0.28		50	100
GMRV 050/110	300	4.7	63 71 80	10	30
	400	3.5		10	40
	500	2.8		10	50
	600	2.3		15	40
	750	1.9		25	30
	900	1.6		30	30
	1200	1.2		30	40
	1500	0.93		50	30
	1800	0.78		60	30
	2400	0.58		60	40
	3000	0.47		60	50
	4000	0.35		50	80
	5000	0.28		50	100
GMRV 063/130	300	4.7	71 80 90	10	30
	400	3.5		10	40
	500	2.8		10	50
	600	2.3		15	40
	750	1.9		25	30
	900	1.6		30	30
	1200	1.2		30	40
	1500	0.93		50	30
	1800	0.78		60	30
	2400	0.58		60	40
	3000	0.47		60	50
	4000	0.35		50	80
	5000	0.28		50	100
GMRV 063/150	150	9.3	71 80 90	10	15
	200	7.1		10	20
	250	5.6		10	25
	300	4.7		10	30
	400	3.5		10	40
	500	2.8		10	50
	600	2.3		15	40
	750	1.9		25	30
	900	1.6		30	30
	1200	1.2		30	40
	1800	0.78		60	30
	2400	0.58		60	40
	3000	0.47		60	50
	4000	0.35		50	80
	5000	0.28		50	100

3.4 *UDL+GMRV / TXF+GMRV*
组合方式

3.4 *UDL+GMRV / TXF+GMRV*
Possible combinations

GMRV		UDL002	UDL005 TXF005	UDL010 TXF010	UD020	UD030	UD050
	IEC	63B5	71B5	80B5	90B5	100B5	112B5
	i	i=1.6-8.2	UDL : i=1.4-7 TXF : i=1.4-8.2	UDL : i=1.4-7 TXF : i=1.4-8.2	i=1.4-8.2	i=1.4-7	i=1.4-7
040	7.5						
	10						
	15						
	20						
	25						
	30						
	40						
	50						
050	7.5						
	10						
	15						
	20						
	25						
	30						
	40						
	50						
	60						
	80						
	100						
063	7.5						
	10						
	15						
	20						
	25						
	30						
	40						
	50						
	60						
	80						
	100						
075	7.5						
	10						
	15						
	20						
	25						
	30						
	40						
	50						
	60						
	80						
090	7.5						
	10						
	15						
	20						
	25						
	30						
	40						
	50						
	60						
	80						
	100						
110	7.5						
	10						
	15						
	20						
	25						
	30						
	40						
	50						
	60						
	80						
	100						
130	7.5						
	10						
	15						
	20						
	25						
	30						
	40						
	50						
	60						
	80						
	100						

4.0 传动不可逆性

4.1 *动态不可逆*

减速器在运转过程中，当蜗杆脱开动力时，输出轴能同步停止转动。此时动态效率需要小于0.5(参照21页表格)。

4.2 *静态不可逆*

减速器在静止状态时，不能通过向输出轴施加力矩带动输入蜗杆转动。此时静态效率需要小于0.5(参照21页表格)。

η_d	动态不可逆性	DYNAMIC IRREVERSIBILITY
> 0.6	动态可逆	dynamic reversibility
0.5 - 0.6	低动态可逆	low dynamic reversibility
0.4 - 0.5	较好的动态不可逆	good dynamic irreversibility
< 0.4	动态不可逆	dynamic irreversibility

η_s	静态不可逆性	STATIC IRREVERSIBILITY
> 0.55	静态可逆	Static reversibility
0.5 - 0.55	低静态可逆	low Static reversibility
< 0.5	静态不可逆	Static irreversibility

表中的分段只是近似值；

轻微的震动和冲击也会影响自锁性能；

双蜗轮减速器的自锁需考虑每个减速器的效率，总效率是两个的乘积，也就是：$\eta_{tot} = \eta_1 * \eta_2$。

4.0 IRREVERSIBILITY

4.1 *Dynamic irreversibility*

Dynamic irreversibility is achieved when the output shaft stops instantly when drive is no longer transmitted through the worm shaft .this condition requires a dynamic efficiency of η_d<0.5(see table on page 21) .

4.2 *Static irreversibility*

Static irreversibility is achieved when,with the gear reducer at a standstill,the application of a load to the output shaft does not set in motion the worm shaft .this condition requires a static efficiency of η_s<0.5(see table on page 21) .

The table shows approximate irreversibility classes.

Vibrations and shocks can affect a gear reducers's irreversibility.

For the irreversibility conditions of a combined geared unit one must consider that the efficiency of the group is given by the product of the efficiency of each single reducer,i.e.: $\eta_{tot} = \eta_1 * \eta_2$.

5.0 啮合参数

5.0 MESH DATA

5.1 蜗杆螺旋线、蜗轮齿牙和效率

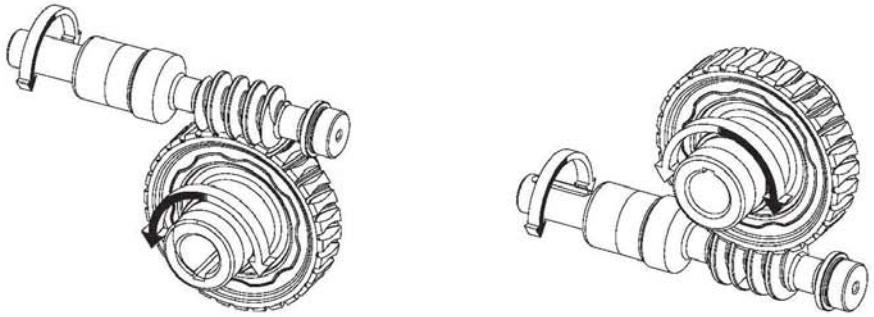
5.1 *Worm thread,worm wheel tooth and efficiency data*

GMRV	I	5	7.5	10	15	20	25	30	40	50	60	80	100
025	Z_1	4	4	3	2	2		1	1	1	1		
	γ	30°57′	25°18′	19°31′	13°18′	10°53′		6°44′	5°29′	4°34′	3°56′		
	M_x	1.8	1.3	1.3	1.3	1		1.3	1	0.8	0.67		
	η_d	0.86	0.84	0.82	0.78	0.74		0.66	0.61	0.57	0.54		
	η_s	0.71	0.70	0.67	0.60	0.55		0.46	0.41	0.36	0.34		
030	Z_1	4	4	3	2	2	1	1	1	1	1	1	
	γ	21°48′	18°50′	14°21′	9°40′	7°44′	5°34′	4°52′	3°53′	3°11′	2°46′	2°07′	
	M_x	2	1.44	1.44	1.44	1.1	1.7	1.44	1.1	0.88	0.75	0.56	
	η_d	0.86	0.84	0.81	0.76	0.72	0.67	0.64	0.58	0.54	0.50	0.44	
	η_s	0.71	0.66	0.62	0.54	0.50	0.43	0.39	0.35	0.31	0.27	0.23	
040	Z_1	4	4	4	2	2	2	1	1	1	1	1	1
	γ	27°24′	21°48′	17°31′	11°18′	8°58′	7°41′	5°42′	4°30′	3°51′	3°17′	2°32′	2°05′
	M_x	2.8	2	1.5	2	1.5	1.25	2	1.5	1.25	1.04	0.78	0.63
	η_d	0.88	0.86	0.85	0.81	0.77	0.74	0.69	0.64	0.61	0.57	0.51	0.47
	η_s	0.72	0.69	0.65	0.58	0.53	0.5	0.44	0.4	0.36	0.32	0.28	0.24
050	Z_1	4	4	4	2	2	2	1	1	1	1	1	1
	γ	23°49′	21°48′	17°42′	11°18′	9°04′	7°36′	5°42′	4°33′	3°49′	3°17′	2°33′	2°04′
	M_x	3.4	2.5	1.9	2.5	1.9	1.54	2.5	1.9	1.54	1.3	0.98	0.78
	η_d	0.87	0.86	0.84	0.8	0.77	0.74	0.7	0.65	0.61	0.57	0.51	0.49
	η_s	0.73	0.69	0.65	0.58	0.54	0.5	0.44	0.39	0.35	0.32	0.27	0.23
063	Z_1		4	4	2	2	2	1	1	1	1	1	1
	γ		24°31′	20°19′	12°50′	10°29′	8°44′	6°30′	5°17′	4°23′	3°47′	2°59′	2°25′
	M_x		3.25	2.5	3.25	2.5	2	3.25	2.5	2	1.68	1.28	1.02
	η_d		0.87	0.86	0.82	0.8	0.77	0.73	0.69	0.65	0.61	0.56	0.5
	η_s		0.7	0.65	0.59	0.54	0.5	0.45	0.4	0.36	0.33	0.28	0.24
075	Z_1		4	4	2	2	2	1	1	1	1	1	1
	γ		26°33′	21°48′	14°02′	11°18′	9°37′	7°07′	5°42′	4°50′	4°05′	3°15′	2°40′
	M_x		4	3	4	3	2.45	4	3	2.45	2	1.54	1.24
	η_d		0.88	0.87	0.84	0.81	0.79	0.75	0.71	0.68	0.64	0.59	0.54
	η_s		0.7	0.67	0.6	0.57	0.52	0.46	0.42	0.38	0.35	0.29	0.26
090	Z_1		4	4	2	2	2	1	1	1	1	1	1
	γ		28°20′	23°26′	15°05′	12°14′	10°37′	7°40′	6°11′	5°21′	4°36′	3°36′	2°57′
	M_x		4.8	3.6	4.8	3.6	3	4.8	3.6	3	2.5	1.88	1.5
	η_d		0.89	0.88	0.85	0.83	0.81	0.77	0.74	0.71	0.68	0.62	0.58
	η_s		0.72	0.69	0.63	0.59	0.55	0.49	0.45	0.41	0.38	0.32	0.28
110	Z_1		4	4	2	2	2	1	1	1	1	1	1
	γ		28°17′	27°35′	15°03′	14°38′	12°37′	7°39′	7°26′	6°23′	5°31′	4°23′	3°38′
	M_x		5.89	4.6	5.89	4.6	3.75	5.89	4.6	3.75	3.12	2.36	1.9
	η_d		0.89	0.88	0.85	0.84	0.83	0.78	0.77	0.74	0.71	0.66	0.62
	η_s		0.71	0.68	0.62	0.61	0.58	0.48	0.48	0.44	0.41	0.36	0.32
130	Z_1		4	4	2	2	2	1	1	1	1	1	1
	γ		28°46′	26°15′	15°21′	13°51′	11°49′	7°48′	7°01′	5°58′	5°12′	4°05′	3°25′
	M_x		7	5.4	7	5.4	4.37	7	5.4	4.37	3.68	2.75	2.24
	η_d		0.9	0.88	0.86	0.85	0.83	0.79	0.77	0.74	0.71	0.67	0.63
	η_s		0.71	0.68	0.62	0.6	0.57	0.49	0.46	0.43	0.39	0.34	0.3
150	Z_1		6	4	3	2	2	2	1	1	1	1	1
	γ		32°09′	24°35′	17°27′	12°53′	11°19′	9°50′	6°32′	5°43′	4°57′	3°55′	3°14′
	M_x		5.5	6.155	5.5	6.155	5	4.193	6.155	5	4.193	3.17	2.55
	η_d		0.91	0.9	0.88	0.86	0.84	0.83	0.78	0.76	0.73	0.68	0.64
	η_s		0.73	0.71	0.66	0.6	0.57	0.54	0.45	0.42	0.39	0.33	0.29

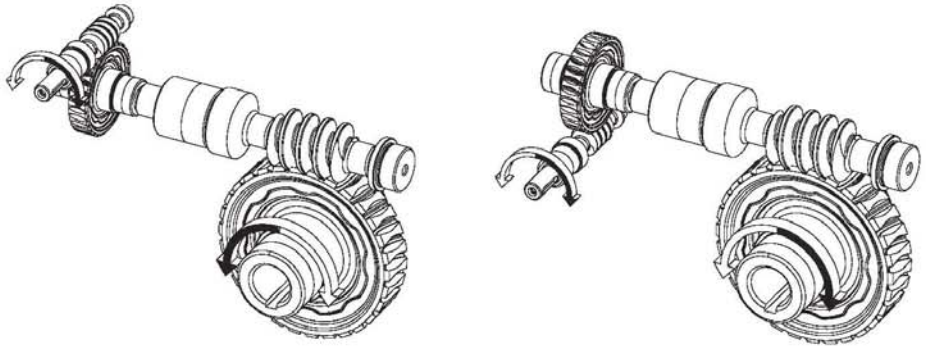
5.2 旋转方向

5.2 *Direction of rotation*

GMRV - GRV



GMRV +GMRV- GRV+GMRV



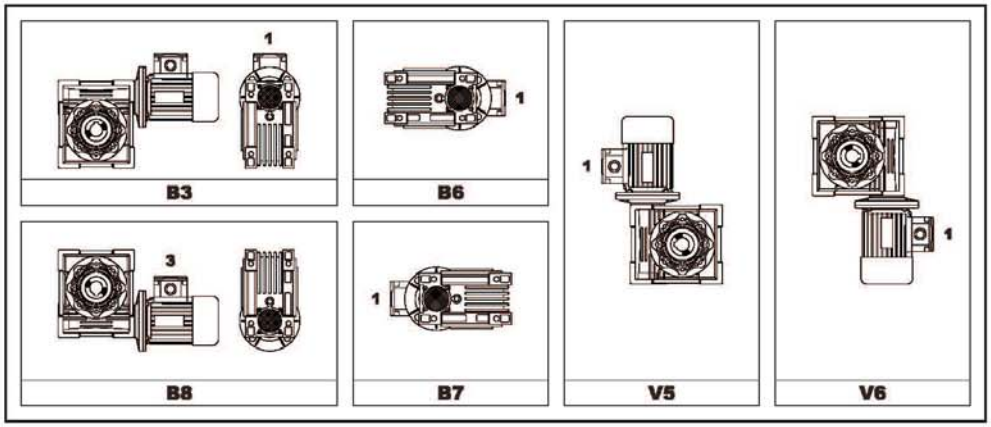
螺旋线为右旋
The helix is right-handed

6.0 安装方位

6.0 MOUNTING POSITIONS

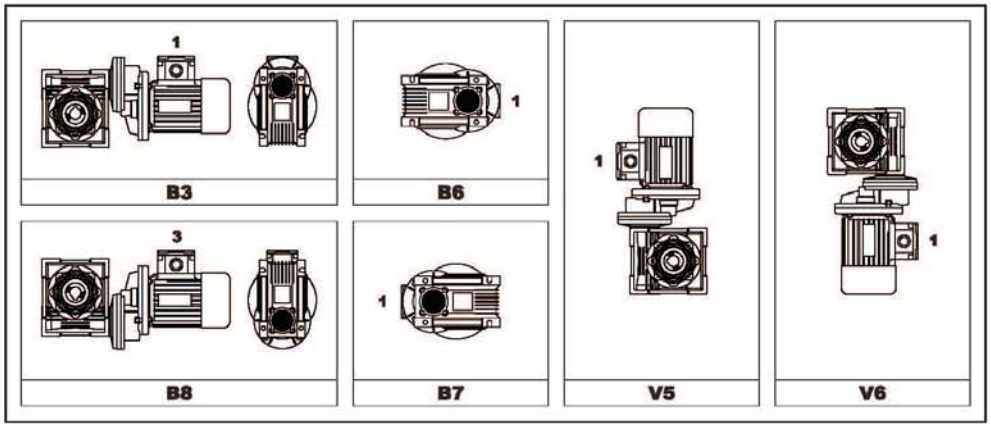
6.1 *GMRV - GRV* 安装方位

6.1 *GMRV - GRV* Mounting positions



6.2 *PC+GMRV* 安装方位

6.2 *PC+GMRV* Mounting positions

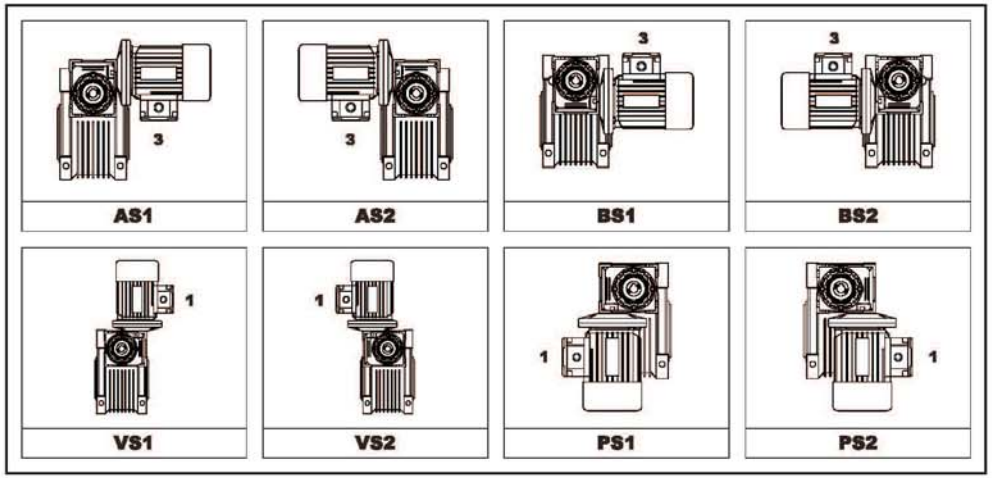


垂直安装时，请查看5页。
如无特殊说明，以B3为标准安装方式。
无相应的安装方式时，请与技术服务部联系。

For vertical positions,check with page 5.
Unless specified otherwise,the standard positions are B3.
For positions not envisaged,it is necessary to call our technical service.

6.3 *GMRV +GMRV-GRV+GMRV* 联接方式

6.3 *GMRV +GMRV-GRV+GMRV* Execution

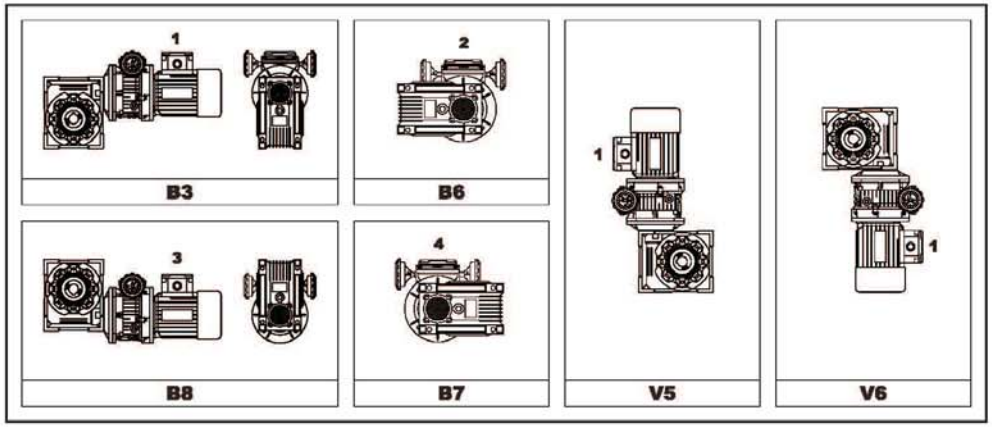


第一级和第二级减速器按上图方式组合，如在订货时没有特别说明，将按照BS2组合方式供货。第二级减速器实际的安装方式，参照23页的方位图。

The position of the 1st reducer with respect to the 2nd gear reducer on the version. Unless otherwise specified at the timeof the order, combination groups are supplied in version BS2. The specified mounting position refers to the 2nd gear reducer. See page 23 for the possible mounting positions.

6.4 *UDL(TXF)+GMRV* 安装方位

6.4 *UDL(TXF)+GMRV* Mounting positions

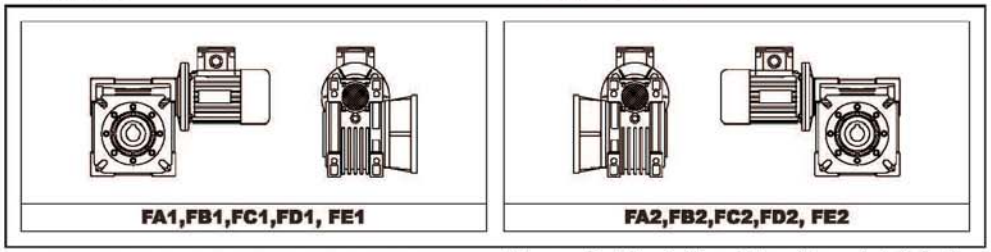


垂直安装时，请查看5页。
如无特殊说明，以B3为标准安装方式。
无相应的安装方式时，请与技术服务部联系。

For vertical positions,check with page 5.
Unless specified otherwise,the standard positions are B3.
For positions not envisaged,it is necessary to call our technical service.

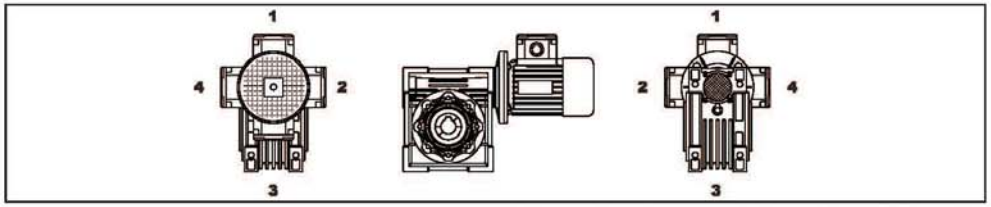
7.0 附件位置图

7.1 输出法兰位置



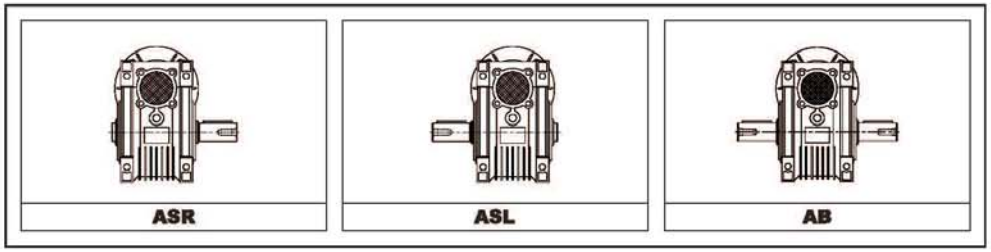
如没有特别说明，将按照如图F…1和B3安装方位的组合样式供货。

7.2 电机接线盒方位



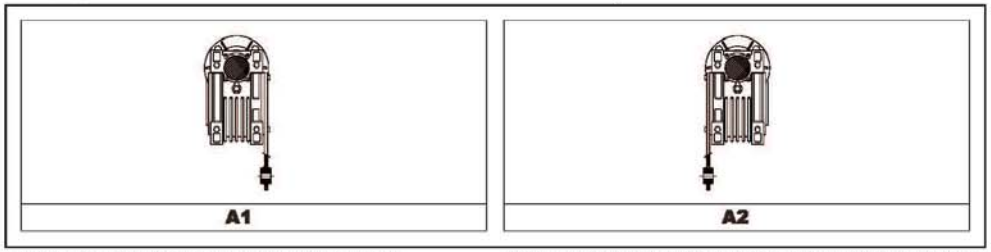
如对电机接线盒位置有特别要求，在下单时按图示注明方位。

7.3 输出轴配置



如没有特别说明，将按照如图ASR和B3安装方位的组合样式供货。

7.4 扭力臂配置



如没有特别说明，将按照如图A1和B3安装方位的组合样式供货。

7.0 ACCESSORIES POSITIONS DIAGRAM

7.1 *Flange mounting side*

Unless specified otherwise,the reduction unit is supplied with the flange in pos. F…1 referred to position B3.

7.2 *POS. of terminal box*

In the case of specific requirements,when ordering,specify the position of the terminal box as show in the diagram.

7.3 *POS. of output shaft*

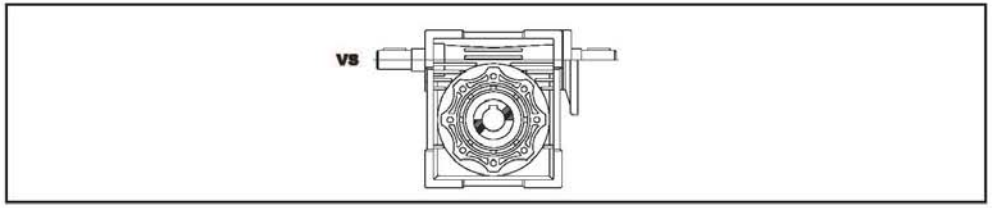
Unless specified otherwise,the reduction unit is supplied with the flange in pos. ASR referred to position B3.

7.4 *POS. of torque arm*

Unless specified otherwise,the reduction unit is supplied with the flange in pos. A1 referred to position B3.

7.5 双向输入轴

7.5 *Double extension worm shaft*



8.0 径向负荷

8.1 径向负荷

通过下列公式可计算轴上的承受重量：

$$F_{re} = \frac{2000 \cdot M \cdot f_x}{D} \leq F_{r1} 或 F_{r2}$$

F_{re} = 轴所承受的径向负荷 (N)
M = 扭矩 (Nm)
D = 在轴上的传动元件之直径 (mm)
F_r = 最大径向承受力（参考有关图表） (N)

f_x = 1.1 齿轮
1.4 链轮
1.7 V–带轮
2.5 平直带轮

当径向负荷没有作用在轴伸中点时，就需要用以下公式计算：

$$F_{re} \leq \frac{F_r \cdot a}{(b+x)} \leq F_{r1}\,max 或 F_{r2}\,max$$

a , b , x: 有关参数表见第27页

8.0 RADIAL LOAD

8.1 *Radial load*

The radial load on the shaft is calculated with the following formula:

$$F_{re} = \frac{2000 \cdot M \cdot f_x}{D} \leq F_{r1} o F_{r2}$$

F_{re} (N) Resulting radial load
M (Nm) Torque on the shaft
D (mm) Diameter of the transmission member mounted on the shaft
F_r (N) Value of the maximum admitted radial load (see relative tables)

f_x = 1,1 gear pinion
1,4 chain wheel
1,7 v-pulley
2,5 flat pulley

When the resulting radial load is not applied on the centre line of the shaft, it is necessary to calculate the effective load with the following formula:

$$F_{re} \leq \frac{F_r \cdot a}{(b+x)} \leq F_{r1}\,max\ o\ F_{r2}\,max$$

a , b , x = values given in the tables on page 27

8.2 径向负荷–技术说明

轴所允许负载的负荷(N)可从相关的图表中查找或从已推出的减速器相关资料中查找。它包括了当负荷与主轴在同一中心线的计算，也有不在同心线的情况下的好几种可能角度和转向.

当径向与轴向负载同时存在时，最大的允许轴向负载值只是径向负载值的五分之一. 图表中所表示的是输出轴的最大承重量。

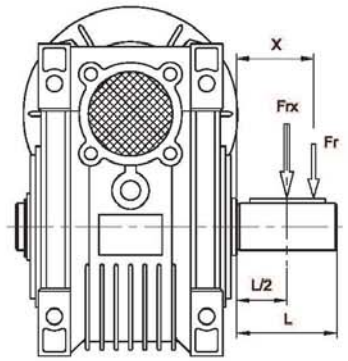
在日常操作中，绝对不可以超过图表的数值，因为关系到外壳的承受极限。在特殊情况下，如轴的负载重量必须要超过这本样本中的数值极限。请与技术人员联系并查阅使用说明书：负载指示，轴的旋转方向，应用种类。

8.2 *Radial load-Technical descriptions*

The value of the admissible radial load (N) is given in the tables relating to the performance of the reduction unit at issue. It is related to the load applied on the centre line of the shaft and in the most unfavourableconditions of angle of application and direction of rotation.
The maximum admissible axial loads are 1/5 of the value of the given radial load when they are applied in combination with the radial load.
The tables relating to the output shafts give the maximum admissible value.
This value must never be exceeded since it relates to the strength of the case. Particular conditions of radial load higher than the limits of the catalogue may occur. In this case, call our Technical Sevice and provide details on the application: direction of the load, direction of rotation of the shaft, type.

8.3 **输出轴径向负荷**

8.3 ***Output shaft Radial load***



GMRV	025	030	040	050	063	075	090	110	130	150
a	50	65	84	101	120	131	162	176	188	215
b	38	50	64	76	95	101	122	136	148	174
F_{r2} max	1350	1830	3490	4840	6270	7380	8180	12000	13500	18000

(*)上述所有轴上的最大负载值是根据单转向并使用圆锥滚子轴承(非标)的前提下计算的。

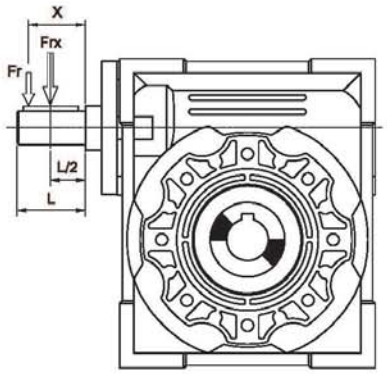
具体的径向负载值可参见相关性能表(F_{r2})

(*) Maximum axial load values admissible in only one direction with the use of a thrust bearing (on request).

The values of the admissible radial loads are given on the pages relating to performance (F_{r2})

8.4 **输入轴径向负荷**

8.4 ***Input shaft radial load***



GRV	030	040	050	063	075	090	110	130	150
a	86	106	129	159	192	227	266	314	350
b	76	94.5	114	139	167	202	236	274	310
F_{r1} max	210	350	490	700	980	1270	1700	2100	2800

具体的径向负载值可参见相关性能表(F_{r1})

The values of the admissible radial loads are given on the pages relating to performance (F_{r1})

9.0 蜗杆减速器选型表
WORM-GEAR UNIT SELECTION CHARTS

9.1 GMRV,GMRV+GMRV,PC+GMRV 性能参数　　9.1 GMRV,GMRV+GMRV,PC+GMRV Performance

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.06	280	1.8	6.2	5	GMRV025	561-4	439	59
	186.7	2.6	4.2	7.5			503	
	140	3.4	3.5	10			553	
	93.3	4.9	2.5	15			633	
	70	6.1	2	20			697	
	46.7	8.2	1.6	30			798	
	35	10	1.3	40			878	
	28	12	0.9	50			946	
	23.3	14	0.7	60			1006	
	180	2.7	4.8	5	GMRV025	562-6	509	59
	120	4	3.2	7.5			583	
	90	5.2	2.7	10			641	
	60	7.4	1.9	15			734	
	45	9.3	1.4	20			808	
	30	12	1.2	30			925	
	22.5	15	0.9	40			1018	
	18	18	0.7	50			1096	
	280	1.8	10.1	5	GMRV030	561-4	597	60
	186.7	2.6	6.9	7.5			683	
	140	3.4	5.4	10			752	
	93.3	4.7	3.8	15			861	
	70	6	3	20			948	
	56	7	3	25			1021	
	46.7	8	2.5	30			1085	
	35	9.7	1.9	40			1194	
	28	11	1.5	50			1286	
	23.3	13	1.3	60			1367	
	17.5	14	0.9	80			1504	
	15	18	0.9	60	GMRV030	562-6	1583	60
	14	25	1.3	100	GMRV025/030	561-4	1620	73
	9.3	32	0.9	150			1830	
	7	41	0.7	200			1830	
	5.6	44	0.8	250			1830	
	18	18	2.3	50	GMRV040	562-6	2868	61
	15	21	1.9	60			3047	
	11.3	24	1.4	80			3354	
	9	27	1.2	100			3490	
	4.7	59	1.2	300	GMRV025/040	561-4	3490	73
	3.5	71	0.9	400			3490	
	2.8	82	0.7	500			3490	
	2.3	101	0.6	600			3490	
	1.9	116	0.5	750			3490	
	1.6	143	0.5	900			3490	
	1.2	171	0.4	1200			3490	
	0.9	197	0.3	1500			3490	
	0.8	217	0.3	1800			3490	
	0.6	268	0.2	2400			3490	
	0.5	324	0.2	3000			3490	
	0.4	294	0.1	4000			3490	
	0.3	356	0.1	5000			3490	
	4.7	57	1.3	300	GMRV030/040	561-4	3490	74
	3.5	70	0.9	400			3490	
	2.8	96	0.6	500			3490	
	2.3	104	0.7	600			3490	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.06	1.9	121	0.6	750	GMRV030/040	561-4	3490	74
	1.6	139	0.5	900			3490	
	1.2	166	0.4	1200			3490	
	0.9	196	0.4	1500			3490	
	0.8	218	0.3	1800			3490	
	0.58	261	0.2	2400			3490	
	0.4	300	0.2	3200			3490	
	0.4	279	0.1	4000			3490	
	0.28	338	0.1	5000			3490	
	1.6	141	1	900	GMRV030/050	561-4	4840	74
	1.2	169	0.7	1200			4840	
	0.93	199	0.7	1500			4840	
	0.78	222	0.7	1800			4840	
	0.6	266	0.5	2400			4840	
	0.5	307	0.4	3000			4840	
	0.35	288	0.3	4000			4840	
	0.29	311	0.3	4800			4840	
	0.9	204	1.1	1500	GMRV030/063	561-4	6270	74
	0.78	225	0.9	1800			6270	
	0.58	276	0.8	2400			6270	
	0.47	319	0.7	3000			6270	
	0.35	306	0.6	4000			6270	
	0.28	360	0.4	5000			6270	
	0.6	330	1.1	2400	GMRV040/075	561-4	7380	75
	0.47	377	0.8	3000			7380	
	0.35	355	0.7	4000			7380	
	0.28	419	0.5	5000			7380	
	0.5	406	1.4	3000	GMRV040/090	561-4	8180	75
	0.35	365	1.3	4000			8180	
	0.28	431	1	5000			8180	
0.09	280	2.7	4.1	5	GMRV025	562-4	439	59
	186.7	3.9	2.8	7.5			503	
	140	5.1	2.4	10			553	
	93.3	7.3	1.6	15			633	
	70	9.2	1.3	20			697	
	46.7	12	1.1	30			798	
	35	15	0.9	40			878	
	280	2.7	6.7	5	GMRV030	562-4	597	60
	186.7	3.9	4.6	7.5			683	
	140	5	3.6	10			752	
	93.3	7.1	2.5	15			861	
	70	9	2	20			948	
	56	10	2	25			1021	
	46.7	12	1.7	30			1085	
	35	14	1.2	40			1194	
	28	17	1	50			1286	
	23.3	19	0.9	60			1367	
	180	4.1	4.9	5	GMRV030	631-6	692	60
	120	5.9	3.4	7.5			792	
	90	7.6	2.6	10			871	
	60	11	1.9	15			997	
	45	13	1.5	20			1098	
	36	15	1.5	25			1183	
	30	17	1.2	30			1257	
	22.5	21	1	40			1383	
	18	24	0.7	50			1490	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.09	14	38	0.8	100	GMRV025/030	562-4	1620	73
	9.3	49	0.6	150			1830	
	7	62	0.5	200			1830	
	5.6	66	0.5	250			1830	
	4.7	75	0.4	300			1830	
	3.5	107	0.3	400			1830	
	2.8	115	0.3	500			1830	
	2.3	135	0.2	600			1830	
	1.9	151	0.2	750			1830	
	1.6	178	0.2	900			1830	
	1.2	212	0.1	1200			1830	
	0.9	247	0.1	1500			1830	
	0.78	304	0.1	1800			1830	
	0.58	340	0.1	2400			1830	
	0.47	405	0.1	3000			1830	
	28	19	2	50	GMRV040	562-4	2475	61
	23.3	21	1.7	60			2630	
	17.5	26	1.3	80			2895	
	14	29	1	100			3118	
	30	19	2.6	30	GMRV040	631-6	2419	61
	22.5	24	1.9	40			2662	
	18	27	1.5	50			2868	
	15	31	1.3	60			3047	
	11.3	37	1	80			3354	
	9	41	0.8	100			3490	
	12.3	47	1.3	73.3	PC063+GMRV040	631-6	3283	69
	10.2	51	1.4	88			3488	
	7.7	62	1.1	117.3			3490	
	6.1	72	0.8	146.7			3490	
	5.1	79	0.7	176			3490	
	4.7	88	0.8	300	GMRV030/040	562-4	3490	74
	15	32	2.3	60	GMRV050	631-6	4183	62
	11.3	37	1.8	80			4604	
	9	42	1.3	100			4840	
	6.1	73	1.6	146.7	PC063+GMRV050	631-6	4840	69
	5.1	81	1.3	176			4840	
	3.8	94	0.9	234.6			4840	
	3	106	0.7	293.3			4840	
	3.5	107	1.2	400	GMRV030/050	562-4	4840	74
	2.8	123	1	500			4840	
	2.3	159	0.9	600			4840	
	1.9	185	0.8	750			4840	
	1.6	212	0.7	900			4840	
	3.8	99	1.7	234.6	PC063+GMRV063	631-6	6270	69
	3	109	1.4	293.3			6270	
	1.6	200	1	900	GMRV030/063	562-4	6270	74
	1.2	263	0.9	1200			6270	
	0.93	305	0.7	1500			6270	
	0.9	360	1.1	1500	GMRV040/075	562-4	7380	75
	0.78	404	1	1800			7380	
	0.58	496	0.7	2400			7380	
	0.5	609	0.9	3000	GMRV040/090	562-4	8180	75
	0.35	548	0.8	4000			8180	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.12	280	3.6	5.1	5	GMRV030	631-4	597	60
	186.7	5.2	3.4	7.5			683	
	140	6.7	2.7	10			752	
	93.3	9.5	1.9	15			861	
	70	12	1.5	20			948	
	56	14	1.5	25			1021	
	46.7	16	1.3	30			1085	
	35	19	0.9	40			1194	
	28	23	0.8	50			1286	
	180	5.4	3.7	5	GMRV030	632-6	692	60
	120	7.9	2.5	7.5			792	
	90	10	2	10			871	
	60	14	1.4	15			997	
	45	18	1.1	20			1098	
	36	20	1.1	25			1183	
	30	23	0.9	30			1257	
	46.7	17	2.6	30	GMRV040	631-4	2087	61
	35	21	1.9	40			2298	
	28	25	1.5	50			2475	
	23.3	28	1.3	60			2630	
	17.5	34	1	80			2895	
	14	38	0.8	100			3118	
	30	25	1.9	30	GMRV040	632-6	2419	61
	22.5	32	1.4	40			2662	
	18	36	1.2	50			2868	
	15	41	0.9	60			3047	
	19.1	42	1.2	73.3	PC063+GMRV040	631-4	2833	69
	15.9	46	1.2	88			3011	
	11.9	57	0.9	117.3			3314	
	9.5	66	0.7	146.7			3490	
	7.9	74	0.6	176			3490	
	12.3	62	1	73.3	PC063+GMRV040	632-6	3283	69
	10.2	68	1.1	88			3488	
	7.7	83	0.8	117.3			3490	
	23.3	29	2.3	60	GMRV050	631-4	3610	62
	17.5	35	1.9	80			3973	
	14	40	1.4	100			4280	
	22.5	32	2.6	40	GMRV050	632-6	3654	62
	18	38	2	50			3936	
	15	42	1.7	60			4183	
	11.3	50	1.4	80			4604	
	9	56	1	100			4840	
	9.5	68	1.3	146.7	PC063+GMRV050	631-4	4840	69
	8	75	1.1	176			4840	
	5.8	88	0.8	234.6			4840	
	4.8	98	0.7	293.3			4840	
	12.3	63	1.7	73.3	PC063+GMRV050	632-6	4506	69
	10.2	70	2.1	88			4788	
	7.7	84	1.5	117.3			4840	
	6.1	97	1.2	146.7			4840	
	5.1	108	1	176			4840	
	3.8	125	0.7	234.6			4840	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.12	4.7	119	1.2	300	GMRV***030/050***	***631-4***	4840	74
	3.5	142	0.9	400			4840	
	2.8	164	0.7	500			4840	
	6	92	1.5	234.6	***PC063***+GMRV***063***	***631-4***	6270	69
	4.8	103	1.2	293.3			6270	
	6.1	101	2.1	146.7	***PC063***+GMRV***063***	***632-6***	6270	69
	5.1	112	1.8	176			6270	
	3.8	131	1.3	234.6			6270	
	3.1	145	1	293.3			6270	
	2.8	171	1.3	500	GMRV***030/063***	***631-4***	6270	74
	2.3	208	1.1	600			6270	
	1.9	241	0.9	750			6270	
	1.6	325	1.2	900	GMRV***040/075***	***631-4***	7380	75
	1.2	399	0.9	1200			7380	
	0.8	547	0.9	1800	GMRV***040/090***	***631-4***	8180	75
	0.58	695	0.9	2400			8180	
	0.5	884	1.2	3000	GMRV***050/110***	***631-4***	10320	75
	0.35	784	1	4000			10320	
	0.28	928	0.8	5000			10320	
0.18	280	5.3	3.4	5	GMRV***030***	***632-4***	597	60
	186.7	7.8	2.3	7.5			683	
	140	10	1.8	10			752	
	93.3	14	1.3	15			861	
	70	18	1	20			948	
	56	21	1	25			1021	
	46.7	24	0.8	30			1085	
	70	19	2	20	GMRV***040***	***632-4***	1824	61
	58	23	1.7	25			1964	
	46.7	26	1.7	30			2087	
	35	32	1.3	40			2298	
	28	38	1	50			2475	
	23.3	43	0.8	60			2630	
	45	29	1.5	20	GMRV***040***	***711-6***	2113	61
	36	34	1.3	25			2276	
	30	38	1.3	30			2419	
	22.5	47	1	40			2662	
	19.1	64	0.8	73.3	***PC063***+GMRV***040***	***632-4***	2833	69
	15.9	70	0.8	88			3011	
	11.9	85	0.6	117.3			3314	
	35	33	2.3	40	GMRV***050***	***632-4***	3153	62
	28	39	1.9	50			3397	
	23.3	43	1.6	60			3610	
	17.5	52	1.2	80			3973	
	14	60	0.9	100			4280	
	18	56	1.4	50	GMRV***050***	***711-6***	3936	62
	15	63	1.1	60			4183	
	11.3	75	0.9	80			4604	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.18	19.1	64	1.4	73.3	***PC063***+GMRV***050***	***632-4***	3889	69
	15.9	71	1.5	88			4132	
	11.9	87	1.1	117.3			4548	
	9.5	101	0.9	146.7			4840	
	7.9	113	0.7	176			4840	
	5.8	133	0.6	234.6			4840	
	12.2	95	1.2	73.5	***PC071***+GMRV***050***	***711-6***	4506	70
	10.2	105	1.4	88.2			4788	
	7.7	126	1	117.6			4840	
	15	66	2.1	60	GMRV***063***	***711-6***	5467	63
	11.3	79	1.6	80			6018	
	9	90	1.4	100			6270	
	9.5	103	1.7	146.7	***PC063***+GMRV***063***	***632-4***	6270	69
	8	117	1.4	176			6270	
	5.8	139	1	234.6			6270	
	4.8	155	0.8	293.3			6270	
	12.4	97	2.2	73.5	***PC071***+GMRV***063***	***711-6***	5889	70
	10.2	107	2.4	88.2			6259	
	7.7	131	1.8	117.6			6270	
	6.1	152	1.4	147			6270	
	5.1	168	1.2	176.4			6270	
	3.8	197	0.9	235.2			6270	
	3.1	218	0.7	294			6270	
	3.5	222	1	400	GMRV***030/063***	***632-4***	6270	74
	2.8	257	0.8	500			6270	
	5.1	179	1.7	176.4	***PC071***+GMRV***075***	***711-6***	7380	70
	3.8	211	1.2	235.2			7380	
	3.1	235	1	294			7380	
	2.3	362	1.1	600	GMRV***040/075***	***632-4***	7380	75
	1.9	435	0.9	750			7380	
	1.6	487	0.8	900			7380	
	1.2	629	1	1200	GMRV***040/090***	***632-4***	8180	75
	0.93	735	0.8	1500			8180	
	0.8	861	1.5	1800	GMRV***050/110***	***632-4***	10320	75
	0.58	1113	1.1	2400			10320	
0.25	280	8	4.5	5	GMRV***040***	***711-4***	1149	61
	186.7	11	3.6	7.5			1315	
	140	14	2.8	10			1447	
	93.3	21	1.9	15			1657	
	70	27	1.5	20			1824	
	56	32	1.2	25			1964	
	46.7	36	1.3	30			2087	
	35	44	0.9	40			2298	
	180	12	3.5	5	GMRV***040***	***712-6***	1331	61
	120	17	2.6	7.5			1524	
	90	22	2	10			1677	
	60	31	1.4	15			1920	
	45	40	1.1	20			2113	
	36	48	0.9	25			2276	
	30	53	0.9	30			2419	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.25	70	27	2.7	20	GMRV*050*	*711-4*	2503	62
	56	32	2.2	25			2696	
	46.7	37	2.3	30			2865	
	35	46	1.7	40			3153	
	28	54	1.4	50			3397	
	23.3	60	1.1	60			3610	
	17.5	72	0.9	80			3973	
	45	40	1.9	20	GMRV*050*	*712-6*	2900	62
	36	48	1.5	25			3124	
	30	54	1.7	30			3320	
	22.5	67	1.2	40			3654	
	18	78	1	50			3936	
	15	88	0.8	60			4183	
	19	88	1	73.5	*PC071*+GMRV*050*	*711-4*	3889	70
	15.9	98	1.1	88.2			4132	
	11.9	121	0.8	117.6			4548	
	28	56	2.4	50	GMRV*063*	*711-4*	4440	63
	23.3	63	2	60			4719	
	17.5	78	1.6	80			5193	
	14	87	1.4	100			5595	
	18	81	1.8	50	GMRV*063*	*712-6*	5145	63
	15	92	1.5	60			5467	
	11.3	110	1.2	80			6018	
	9	125	1	100			6270	
	19	91	1.8	73.5	*PC071*+GMRV*063*	*711-4*	5083	70
	15.9	100	2	88.2			5401	
	11.9	125	1.5	117.6			5945	
	9.5	143	1.2	147			6270	
	7.9	163	1	176.4			6270	
	6	192	0.7	235.2			6270	
	4.8	215	0.6	294			6270	
	12.4	135	1.6	73.5	*PC071*+GMRV*063*	*712-6*	5889	70
	10.2	148	1.8	88.2			6259	
	7.7	181	1.3	117.6			6270	
	6.1	211	1	147			6270	
	17.5	82	2.3	80	GMRV*075*	*711-4*	6130	64
	14	94	1.9	100			6603	
	11.3	117	1.7	80	GMRV *075*	*712-6*	7103	64
	9	133	1.4	100			7380	
	9.5	151	1.7	147	*PC071*+GMRV*075*	*711-4*	7380	70
	7.9	172	1.4	176.4			7380	
	6	201	1.1	235.2			7380	
	4.8	230	0.9	294			7380	
	12.4	139	2.4	73.5	*PC071*+GMRV*075*	*712-6*	6952	70
	10.2	155	2.5	88.2			7380	
	7.7	191	1.9	117.6			7380	
	6.1	219	1.5	147			7380	
	5.1	248	1.2	176.4			7380	
	3.5	336	1.1	400	GMRV*040/075*	*711-4*	7380	75
	2.8	384	0.8	500			7380	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.25	5.1	263	1.9	176.4	*PC071*+GMRV*090*	*712-6*	8180	71
	3.8	318	1.4	235.2			8180	
	3.1	358	1.1	294			8180	
	2.3	512	1.2	600	GMRV*040/090*	*711-4*	8180	75
	1.9	598	0.9	750			8180	
	1.6	667	0.8	900			8180	
	1.2	943	1.3	1200	GMRV*050/110*	*711-4*	10320	75
	0.93	1064	1.2	1500			10320	
	0.78	1195	1.1	1800			10320	
	0.6	1624	1	2400	GMRV*063/130*	*711-4*	13500	76
	0.47	1935	0.8	3000			13500	
	0.35	2046	0.6	4000			13500	
	0.28	2430	0.5	5000			13500	
	0.8	1199	1.8	1800	GMRV*063/150*	*711-4*	18000	76
	0.6	1446	1.8	2400			18000	
	0.5	1713	1.4	3000			18000	
	0.4	2026	0.9	4000			18000	
	0.3	2251	0.7	5000			18000	
0.37	280	11	3	5	GMRV*040*	*712-4*	1149	61
	186.7	16	2.4	7.5			1315	
	140	21	1.9	10			1447	
	93.3	31	1.3	15			1657	
	70	39	1	20			1824	
	56	47	0.8	25			1964	
	46.7	53	0.8	30			2087	
	140	22	3.3	10	GMRV*050*	*712-4*	1987	62
	93.3	31	2.4	15			2274	
	70	40	1.8	20			2503	
	56	48	1.5	25			2696	
	46.7	55	1.5	30			2865	
	35	68	1.1	40			3153	
	28	80	0.9	50	GMRV*050*	*712-4*	3397	62
	23.3	89	0.8	60			3610	
	180	17	4.3	5	GMRV*050*	*801-6*	1827	62
	120	25	3.3	7.5			2091	
	90	33	2.5	10			2302	
	60	47	1.8	15			2635	
	45	60	1.3	20			2900	
	36	72	1	25			3124	
	30	80	1.1	30			3320	
	35	71	2.1	40	GMRV*063*	*712-4*	4122	63
	28	83	1.6	50			4440	
	23.3	94	1.4	60			4719	
	17.5	115	1.1	80			5193	
	14	129	0.9	100			5595	
	45	60	2.4	20	GMRV*063*	*801-6*	3791	63
	36	74	1.9	25			4084	
	30	82	2.1	30			4339	
	22.5	102	1.6	40			4776	
	18	120	1.2	50			5145	
	15	137	1	60			5467	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.37	19	134	1.2	73.5	***PC071***+GMRV***063***	***712-4***	5083	70
	15.9	148	1.4	88.2			5401	
	11.9	185	1	117.6			5945	
	9.5	212	0.8	147			6270	
	23.3	98	2	60	GMRV***075***	***712-4***	5569	64
	17.5	121	1.6	80			6130	
	14	139	1.3	100			6603	
	18	126	1.8	50	GMRV***075***	***801-6***	6073	64
	15	144	1.5	60			6453	
	11.3	173	1.2	80			7103	
	9	196	1	100			7380	
	19	138	1.8	73.5	***PC071***+GMRV***075***	***712-4***	6000	70
	15.9	154	1.9	88.2			6375	
	11.9	191	1.5	117.6			7017	
	9.5	223	1.1	147			7380	
	7.9	254	0.9	176.4			7380	
	12	206	1.6	75	***PC080***+GMRV***075***	***801-6***	6952	71
	10	230	1.7	90			7380	
	7.5	283	1.3	120			7380	
	6	324	1	150			7380	
	4.7	405	1	300	GMRV***040/075***	***712-4***	7380	75
	3.5	498	0.7	400			7380	
	11.3	185	1.7	80	GMRV***090***	***801-6***	7859	65
	9	212	1.3	100			8180	
	7.9	268	1.5	176.4	***PC071***+GMRV***090***	***712-4***	8180	71
	6	321	1.1	235.2			8180	
	4.8	371	0.9	294			8180	
	6	347	1.6	150	***PC080***+GMRV***090***	***801-6***	8180	71
	5	389	1.3	180			8180	
	3.8	471	1	240			8180	
	4.7	402	1.5	300	GMRV***040/090***	***712-4***	8180	75
	3.5	523	1.2	400			8180	
	2.8	611	0.9	500			8180	
	2.3	757	0.8	600			8180	
	3.8	509	1.6	240	***PC080***+GMRV***110***	***801-6***	10320	72
	3	577	1.3	300			10320	
	1.9	950	1.3	750	GMRV***050/110***	***712-4***	10320	75
	1.6	1079	1.2	900			10320	
	1.2	1396	0.8	1200			10320	
	0.9	1674	1.1	1500	GMRV***063/130***	***712-4***	13500	76
	0.78	1887	0.9	1800			13500	
	0.8	1775	1.2	1800	GMRV***063/150***	***712-4***	18000	76
	0.6	2141	1.2	2400			18000	
	0.5	2535	0.9	3000			18000	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.55	280	17	3.7	5	GMRV***050***	***801-4***	1577	62
	186.7	25	2.9	7.5			1805	
	140	32	2.2	10			1987	
	93.3	46	1.6	15			2274	
	70	59	1.2	20			2503	
	56	71	1	25			2696	
	46.7	81	1	30			2865	
	120	38	2.2	7.5	GMRV***050***	***802-6***	2091	62
	90	49	1.7	10			2302	
	60	69	1.2	15			2635	
	45	89	0.9	20			2900	
	70	61	2.2	20	GMRV***063***	***801-4***	3272	63
	56	73	1.8	25			3524	
	46.7	83	1.9	30			3745	
	35	105	1.4	40			4122	
	28	124	1.1	50			4440	
	23.3	140	0.9	60			4719	
	60	71	2.2	15	GMRV***063***	***802-6***	3444	63
	45	90	1.6	20			3791	
	36	109	1.3	25			4084	
	30	123	1.4	30			4339	
	22.5	152	1.1	40			4776	
	35	108	2	40	GMRV***075***	***801-4***	4865	64
	28	129	1.6	50			5241	
	23.3	146	1.4	60			5569	
	17.5	180	1.1	80			6130	
	14	206	0.9	100			6603	
	30	128	2	30	GMRV***075***	***802-6***	5122	64
	22.5	159	1.5	40			5637	
	18	187	1.2	50			6073	
	15	214	1	60			6453	
	18.7	205	1.2	75	***PC080***+GMRV***075***	***801-4***	6000	71
	15.6	230	1.3	90			6375	
	11.7	284	1	120			7017	
	9.3	332	0.8	150			7380	
	12	306	1.1	75	***PC080***+GMRV***075***	***802-6***	6952	71
	10	341	1.1	90			7380	
	17.5	189	1.5	80	GMRV***090***	***801-4***	6783	65
	14	221	1.2	100			7306	
	18	198	2	50	GMRV***090***	***802-6***	6719	65
	15	224	1.6	60			7140	
	11.3	275	1.1	80			7859	
	9	315	0.9	100			8180	
	15.6	240	2.3	90	***PC080***+GMRV***090***	***801-4***	7054	71
	11.7	297	1.6	120			7764	
	9.3	355	1.3	150			8180	
	7.8	398	1	180			8180	
	10	357	2	90	***PC080***+GMRV***090***	***802-6***	8174	71
	7.5	441	1.4	120			8180	
	6	516	1.1	150			8180	
	5	578	0.9	180			8180	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.55	17.5	201	2.6	80	GMRV***110***	***801-4***	8571	66
	14	236	2	100			9232	
	11.3	294	1.9	80	GMRV ***110***	***802-6***	9931	66
	9	338	1.5	100			10320	
	7.8	425	1.8	180	***PC080***+GMRV***110***	***801-4***	10320	72
	5.8	513	1.3	240			10320	
	4.7	597	1	300			10320	
	7.5	462	2.6	120	***PC080***+GMRV***110***	***802-6***	10320	72
	6	552	2	150			10320	
	5	620	1.6	180			10320	
	3.8	756	1.1	240			10320	
	4.7	639	2	300	GMRV***050/110***	***801-4***	10320	75
	3.5	826	1.4	400			10320	
	2.8	984	1.1	500			10320	
	2.3	1181	1	600			10320	
	1.9	1411	0.9	750			10320	
	3.8	756	1.6	240	***PC080***+GMRV***130***	***802-6***	13500	72
	3	858	1.3	300			13500	
	2.8	996	1.6	500	GMRV***063/130***	***801-4***	13500	76
	1.9	1471	1.2	750			13500	
	1.2	2132	0.8	1200			13500	
	0.8	2638	0.8	1800	GMRV***063/150***	***801-4***	18000	76
	0.6	3182	0.8	2400			18000	
0.75	280	23	2.7	5	GMRV***050***	***802-4***	1577	62
	186.7	34	2.1	7.5			1805	
	140	44	1.6	10			1987	
	93.3	63	1.2	15			2274	
	70	81	0.9	20			2503	
	93.3	64	2.2	15	GMRV***063***	***802-4***	2973	63
	70	83	1.6	20			3272	
	56	100	1.3	25			3524	
	46.7	114	1.4	30			3745	
	35	143	1	40			4122	
	120	52	2.9	7.5	GMRV***063***	***90S-6***	2734	63
	90	68	2.3	10			3009	
	60	97	1.6	15			3444	
	45	123	1.2	20			3791	
	36	149	0.9	25			4084	
	30	167	1	30			4339	
	56	102	2	25	GMRV***075***	***802-4***	4160	64
	46.7	117	2	30			4421	
	35	147	1.5	40			4865	
	28	177	1.2	50			5241	
	23.3	200	1	60			5569	
	60	98	2.4	15	GMRV***075***	***90S-6***	4065	64
	45	126	1.9	20			4474	
	36	153	1.4	25			4820	
	30	174	1.5	30			5122	
	22.5	216	1.1	40			5637	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
0.75	18.7	280	0.9	75	***PC080***+GMRV***075***	***802-4***	6000	71
	15.6	313	1	90			6375	
	28	184	1.8	50	GMRV***090***	***802-4***	5799	65
	23.3	212	1.5	60			6163	
	17.5	258	1.1	80			6783	
	14	302	0.9	100			7306	
	30	179	2.6	30	GMRV***090***	***90S-6***	5667	65
	22.5	226	1.8	40			6238	
	18	271	1.4	50			6719	
	15	306	1.1	60			7140	
	15.6	327	1.7	90	***PC080***+GMRV***090***	***802-4***	7054	71
	11.7	405	1.2	120			7764	
	9.3	483	0.9	150			8180	
	7.8	543	0.7	180			8180	
	17.5	274	1.9	80	GMRV ***110***	***802-4***	8571	66
	14	322	1.5	100			9232	
	15	325	2.1	60	GMRV***110***	***90S-6***	9023	66
	11.3	401	1.4	80			9931	
	9	462	1.1	100			10320	
	11.7	430	2.2	120	***PC080***+GMRV***110***	***802-4***	9811	72
	9.3	506	1.7	150			10320	
	7.8	580	1.3	180			10320	
	5.8	700	0.9	240			10320	
	12.2	393	3.2	73.5	***PC090***+GMRV***110***	***90S-6***	9614	72
	9.2	508	2.3	98			10320	
	7.3	607	1.8	122.5			10320	
	6.1	682	1.5	147			10320	
	4.6	832	1	196			10320	
	4.7	871	1.5	300	GMRV***050/110***	***802-4***	10320	75
	3.5	1126	1.1	400			10320	
	11.3	407	2.1	80	GMRV***130***	***90S-6***	12989	67
	9	470	1.7	100			13500	
	5.8	712	1.4	240	***PC080***+GMRV***130***	***802-4***	13500	72
	4.7	813	1.1	300			13500	
	12.2	399	4.4	73.5	***PC090***+GMRV***130***	***90S-6***	12575	72
	9.2	508	3.2	98			13500	
	7.3	607	2.6	122.5			13500	
	6.1	682	2.1	147			13500	
	4.6	832	1.5	196			13500	
	3.7	944	1.2	245			13500	
	2.8	1358	1.1	500	GMRV***063/130***	***802-4***	13500	76
	2.3	1631	1	600			13500	
	1.9	2005	0.9	750			13500	
	1.6	2283	0.8	900			13500	
	2.8	1291	1.8	500	GMRV***063/150***	***802-4***	18000	76
	2.3	1529	1.7	600			18000	
	1.9	1783	1.3	750			18000	
	1.6	2215	0.9	900			18000	
	1.2	2680	1	1200			18000	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
1.10	120	76	2	7.5	GMRV063	90L-6	2734	63
	90	99	1.5	10			3009	
	60	142	1.1	15			3444	
	45	180	0.8	20			3791	
	186.7	50	2.6	7.5	GMRV063	90S-4	2359	63
	140	65	2	10			2597	
	93.3	93	1.5	15			2973	
	70	122	1.1	20			3272	
	56	146	0.9	25			3524	
	46.7	167	1	30			3745	
	90	100	2.3	10	GMRV075	90L-6	3551	64
	60	144	1.6	15			4065	
	45	184	1.3	20			4474	
	36	225	1	25			4820	
	30	256	1	30			5122	
	93.3	96	2.1	15	GMRV075	90S-4	3509	64
	70	123	1.7	20			3862	
	56	150	1.3	25			4160	
	46.7	171	1.3	30			4421	
	35	216	1	40			4865	
	36	231	1.6	25	GMRV090	90L-6	5333	65
	30	263	1.8	30			5667	
	22.5	331	1.2	40			6238	
	18	397	1	50			6719	
	15	448	0.8	60			7140	
	35	225	1.6	40	GMRV090	90S-4	5383	65
	28	270	1.3	50			5799	
	23.3	311	1	60			6163	
	22.5	345	2.3	40	GMRV110	90L-6	7882	66
	18	414	1.8	50			8491	
	15	476	1.4	60			9023	
	11.3	588	1	80			9931	
	28	281	2.3	50	GMRV110	90S-4	7328	66
	23.3	324	1.9	60			7787	
	17.5	402	1.3	80			8571	
	14	473	1	100			9232	
	12.2	576	2.2	73.5	PC090+GMRV110	90L-6	9614	72
	9.2	746	1.6	98			10320	
	7.3	890	1.2	122.5			10320	
	6.1	1000	1	147			10320	
	19	392	2.5	73.5	PC090+GMRV110	90S-4	8298	72
	14.3	508	1.8	98			9133	
	11.4	599	1.5	122.5			9838	
	9.5	686	1.1	147			10320	
	7.1	828	0.8	196			10320	
	11.3	598	1.4	80	GMRV130	90L-6	12989	67
	9	689	1.1	100			13500	
	17.5	408	2.1	80	GMRV130	90S-4	11210	67
	14	480	1.5	100			12076	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
1.10	12.2	585	3	73.5	PC090+GMRV130	90L-6	12575	72
	9.2	746	2.2	98			13500	
	7.3	890	1.7	122.5			13500	
	6.1	1000	1.4	147			13500	
	4.6	1220	1	196			13500	
	19	398	3.5	73.5	PC090+GMRV130	90S-4	10853	72
	14.3	508	2.6	98			11945	
	11.4	608	2	122.5			12868	
	9.5	686	1.6	147			13500	
	7.1	843	1.2	196			13500	
	5.7	962	0.9	245			13500	
	4.7	1312	1.3	300	GMRV063/130	90S-4	13500	76
	3.5	1671	1	400			13500	
	2.8	1991	0.8	500			13500	
	9.3	753	3.1	150	GMRV063/150	90S-4	18000	76
	7	966	2.4	200			18000	
	5.6	1175	1.7	250			18000	
	4.7	1364	1.7	300			18000	
	3.5	1619	1.6	400			18000	
	2.8	1893	1.2	500			18000	
	2.3	2242	1.2	600			18000	
	1.9	2616	0.9	750			18000	
1.50	186.7	68	1.9	7.5	GMRV063	90L-4	2359	63
	140	89	1.5	10			2597	
	93.3	127	1.1	15			2973	
	70	166	0.8	20			3272	
	120	105	2	7.5	GMRV075	100L-6	3227	64
	90	137	1.7	10			3551	
	60	196	1.2	15			4065	
	140	90	2.2	10	GMRV075	90L-4	3065	64
	93.3	130	1.5	15			3509	
	70	168	1.3	20			3862	
	56	205	1	25			4160	
	46.7	233	1	30			4421	
	90	138	2.7	10	GMRV090	100L-6	3929	65
	60	201	2.1	15			4498	
	45	258	1.5	20			4951	
	36	314	1.2	25			5333	
	30	358	1.3	30			5667	
	70	172	2.1	20	GMRV090	90L-4	4273	65
	56	210	1.6	25			4603	
	46.7	239	1.7	30			4891	
	35	307	1.2	40			5383	
	28	368	0.9	50			5799	
	23.3	424	0.8	60			6163	
	45	264	2.7	20	GMRV110	100L-6	6256	66
	36	322	2.4	25			6739	
	30	363	2.3	30			7161	
	22.5	471	1.7	40			7882	
	18	565	1.3	50			8491	
	15	649	1.1	60			9023	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
1.50	35	319	2.2	40	GMRV*110*	*90L-4*	6803	66
	28	384	1.7	50			7328	
	23.3	442	1.4	60			7787	
	17.5	548	0.9	80			8571	
	19	535	1.9	73.5	*PC090*+GMRV*110*	*90L-4*	8298	72
	14.3	693	1.3	98			9133	
	11.4	817	1.1	122.5			9838	
	9.5	936	0.8	147			10320	
	22.5	478	2.3	40	GMRV*130*	*100L-6*	10309	67
	18	573	1.8	50			11105	
	15	659	1.4	60			11801	
	11.3	815	1.1	80			12989	
	17.5	557	1.5	80	GMRV*130*	*90L-4*	11210	67
	14	655	1.1	100			12076	
	19	542	2.6	73.5	*PC090*+GMRV*130*	*90L-4*	10853	72
	14.3	693	1.9	98			11945	
	11.4	830	1.5	122.5			12868	
	9.5	936	1.1	147			13500	
	7.1	1149	0.8	196			13500	
	4.7	1789	1	300	GMRV*063/130*	*90L-4*	13500	76
	3.5	2279	0.7	400			13500	
	9.3	1026	2.3	150	GMRV*063/150*	*90L-4*	18000	76
	7	1317	1.8	200			18000	
	5.6	1602	1.3	250			18000	
	4.7	1860	1.3	300			18000	
	3.5	2208	1.2	400			18000	
	2.8	2582	0.9	500			18000	
	2.3	3057	0.9	600			18000	
2.20	186.7	100	1.8	7.5	GMRV*075*	*100L1-4*	2785	64
	140	132	1.5	10			3065	
	93.3	191	1	15			3509	
	186.7	101	2.9	7.5	GMRV*090*	*100L1-4*	3081	65
	140	134	2.3	10			3391	
	93.3	194	1.9	15			3882	
	70	252	1.4	20			4273	
	56	308	1.1	25			4603	
	46.7	351	1.2	30			4891	
	120	156	2.2	7.5	GMRV*090*	*112M-6*	3570	65
	90	203	1.8	10			3929	
	60	294	1.4	15			4498	
	45	378	1	20			4951	
	70	255	2.5	20	GMRV*110*	*100L1-4*	5399	66
	56	315	2.2	25			5816	
	46.7	356	2	30			6181	
	35	468	1.5	40			6803	
	28	563	1.2	50			7328	
	23.3	648	1	60			7787	
	90	205	3.5	10	GMRV*110*	*112M-6*	4965	66
	60	298	2.6	15			5684	
	45	388	1.9	20			6256	
	36	473	1.6	25			6739	
	30	532	1.6	30			7161	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
2.20	35	468	2.2	40	GMRV*130*	*100L1-4*	8897	67
	28	563	1.7	50			9584	
	23.3	648	1.4	60			10185	
	17.5	816	1	80			11210	
	36	479	2.2	25	GMRV*130*	*112M-6*	8814	67
	30	546	2.1	30			9366	
	22.5	700	1.6	40			10309	
	18	840	1.2	50			11105	
	15	966	1	60			11801	
	28	570	2.5	50	GMRV*150*	*100L1-4*	13103	68
	23.3	657	1.9	60			13924	
	17.5	816	1.4	80			15325	
	14	960	1	100			16508	
3.00	186.7	137	1.4	7.5	GMRV*075*	*100L2-4*	2785	64
	140	180	1.1	10			3065	
	93.3	261	0.8	15			3509	
	186.7	138	2.1	7.5	GMRV*090*	*100L2-4*	3081	65
	140	182	1.7	10			3391	
	93.3	264	1.4	15			3882	
	70	344	1	20			4273	
	56	420	0.8	25			4603	
	46.7	479	0.9	30			4891	
	93.3	264	2.5	15	GMRV*110*	*100L2-4*	4905	66
	70	348	1.9	20			5399	
	56	430	1.6	25			5816	
	46.7	485	1.5	30			6181	
	35	638	1.1	40			6803	
	28	767	0.9	50			7328	
	120	212	3.1	7.5	GMRV*110*	*132S-6*	4511	66
	90	280	2.5	10			4965	
	60	406	1.9	15			5684	
	45	528	1.4	20			6256	
	56	430	2.2	25	GMRV*130*	*100L2-4*	7607	67
	46.7	491	2.1	30			8084	
	35	638	1.6	40			8897	
	28	767	1.3	50			9584	
	23.3	884	1	60			10185	
	17.5	1113	0.8	80			11210	
	90	280	3.4	10	GMRV*130*	*132S-6*	6494	67
	60	406	2.6	15			7434	
	45	535	1.9	20			8182	
	36	653	1.6	25	GMRV*130*	*132S-6*	8814	67
	30	745	1.6	30			9366	
	22.5	955	1.2	40			10309	
	28	778	1.8	50	GMRV*150*	*100L2-4*	13103	68
	23.3	896	1.4	60			13924	
	17.5	1113	1	80			15325	
	14	1310	0.8	100			16508	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
4.00	186.7	184	1.6	7.5	GMRV***090***	***112M-4***	3081	65
	140	243	1.3	10			3391	
	93.3	352	1	15			3882	
	70	458	0.8	20			4273	
	140	243	2.5	10	GMRV***110***	***112M-4***	4285	66
	93.3	352	1.9	15			4905	
	70	484	1.4	20			5399	
	56	573	1.2	25			5816	
	46.7	647	1.1	30			6181	
	120	283	2.3	7.5	GMRV***110***	***132M1-6***	4511	66
	90	374	1.9	10			4965	
	60	541	1.4	15			5684	
	56	573	1.6	25	GMRV***130***	***112M-4***	7607	67
	46.7	655	1.6	30			8084	
	35	851	1.2	40			8897	
	28	1023	1	50			9584	
	23.3	1179	0.8	60			10185	
	120	287	3.1	7.5	GMRV ***130***	***132M1-6***	5901	67
	90	374	2.6	10			6494	
	60	541	2	15			7434	
	45	713	1.5	20			8182	
	36	870	1.2	25			8814	
	28	1037	1.4	50	GMRV***150***	***112M-4***	13103	68
	23.3	1195	1.1	60			13924	
	17.5	1484	0.8	80			15325	
5.50	186.7	253	2.2	7.5	GMRV***110***	***132S-4***	3893	66
	140	334	1.8	10			4285	
	93.3	484	1.4	15			4905	
	70	638	1	20			5399	
	140	334	2.5	10	GMRV***130***	***132S-4***	5605	67
	93.3	490	1.9	15			6416	
	70	645	1.4	20			7062	
	56	788	1.2	25			7607	
	46.7	900	1.2	30			8084	
	35	1171	0.9	40			8897	
	70	645	2	20	GMRV***150***	***132S-4***	9654	68
	56	788	1.5	25			10400	
	46.7	934	1.3	30			11051	
	35	1171	1.3	40			12163	
	28	1426	1	50			13103	
	23.3	1643	0.8	60			13924	
7.50	186.7	345	1.6	7.5	GMRV***110***	***132M-4***	3893	66
	140	455	1.3	10			4285	
	93.3	660	1	15			4905	
	186.7	349	2.1	7.5	GMRV***130***	***132M-4***	5092	67
	140	455	1.8	10			5605	
	93.3	668	1.4	15			6416	
	70	880	1	20			7062	
	56	1074	0.9	25			7607	
	46.7	1228	0.8	30			8084	
	35	1596	0.7	40			8897	

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	f.s.	i	减速器型号 Type		Fr_2 (N)	
7.50	70	880	1.5	20	GMRV***150***	***132M-4***	9654	68
	56	1074	1.1	25			10400	
	46.7	1274	0.9	30			11051	
	35	1596	1	40			12163	
11.00	186.7	512	2.3	7.5	GMRV***150***	***160M-4***	6962	68
	140	675	1.8	10			7663	
	93.3	990	1.3	15			8771	
	70	1291	1	20			9654	
	56	1576	0.8	25			10400	
15.00	186.7	698	1.7	7.5	GMRV***150***	***160L-4***	6962	68
	140	921	1.3	10			7663	
	93.3	1351	0.9	15			8771	
	70	1760	0.7	20			9654	

9.2 GRV 性能参数

9.2 GRV *Performance*

n_1=1400

M_2 (Nm)	i	P_1 (kW)	n_2 (min^{-1})	减速器型号 Type	Fr_2 (N)	Fr_1 (N)	⟷
18	5	0.61	280.0	GRV***030***	597	150	78
18	7.5	0.41	186.7		683	150	
18	10	0.32	140.0		752	169	
18	15	0.23	93.3		861	169	
18	20	0.18	70.0		948	190	
21	25	0.18	56.0		1021	210	
20	30	0.15	46.7		1085	210	
18	40	0.11	35.0		1194	210	
17	50	0.09	28.0		1286	210	
16	60	0.08	23.3		1367	210	
13	80	0.05	17.5		1504	210	
34	5	1.1	280.0	GRV***040***	1149	250	78
40	7.5	0.90	186.7		1315	294	
40	10	0.69	140.0		1447	331	
40	15	0.48	93.3		1657	331	
39	20	0.37	70.0		1824	350	
38	25	0.30	56.0		1964	350	
45	30	0.31	46.7		2087	350	
41	40	0.23	35.0		2298	350	
39	50	0.18	28.0		2475	350	
36	60	0.15	23.3		2630	350	
33	80	0.12	17.5		2895	350	
29	100	0.09	14.0		3118	350	
62	5	2.0	280.0	GRV***050***	1577	350	78
71	7.5	1.6	186.7		1805	401	
72	10	1.2	140.0		1987	490	
74	15	0.88	93.3		2274	490	
73	20	0.68	70.0		2503	490	
70	25	0.54	56.0		2696	490	
84	30	0.57	46.7		2865	490	
76	40	0.42	35.0		3153	490	
73	50	0.34	28.0		3397	490	
68	60	0.28	23.3		3610	490	
65	80	0.22	17.5		3973	490	
55	100	0.16	14.0		4280	490	
128	7.5	2.8	186.7	GRV***063***	2359	500	78
130	10	2.2	140.0		2597	571	
140	15	1.6	93.3		2973	615	
135	20	1.2	70.0		3272	667	
130	25	1.0	56.0		3524	700	
160	30	1.1	46.7		3745	700	
145	40	0.76	35.0		4122	700	
135	50	0.60	28.0		4440	700	
130	60	0.51	23.3		4719	700	
122	80	0.39	17.5		5193	700	
118	100	0.34	14.0		5595	700	
185	7.5	4.1	186.7	GRV***075***	2785	700	78
195	10	3.2	140.0		3065	830	
200	15	2.3	93.3		3509	851	
210	20	1.9	70.0		3862	980	
200	25	1.5	56.0		4160	980	
230	30	1.5	46.7		4421	980	
220	40	1.1	35.0		4865	980	
210	50	0.89	28.0		5241	980	
200	60	0.75	23.3		5569	980	
190	80	0.58	17.5		6130	980	
180	100	0.48	14.0		6603	980	

n_1=1400

M_2 (Nm)	i	P_1 (kW)	n_2 (min^{-1})	减速器型号 Type	Fr_2 (N)	Fr_1 (N)	⟷
290	7.5	6.3	186.7	GRV***090***	3081	900	78
310	10	5.1	140.0		3391	1082	
360	15	4.1	93.3		3882	1257	
355	20	3.1	70.0		4273	1270	
340	25	2.4	56.0		4603	1270	
410	30	2.6	46.7		4891	1270	
360	40	1.8	35.0		5383	1270	
340	50	1.4	28.0		5799	1270	
320	60	1.1	23.3		6163	1270	
285	80	0.83	17.5		6783	1270	
270	100	0.67	14.0		7306	1270	
552	7.5	12.0	186.7	GRV***110***	3893	1200	78
598	10	9.8	140.0		4285	1463	
656	15	7.5	93.3		4905	1604	
644	20	5.6	70.0		5399	1700	
679	25	4.7	56.0		5816	1700	
725	30	4.5	46.7		6181	1700	
702	40	3.3	35.0		6803	1700	
660	50	2.6	28.0		7328	1700	
616	60	2.1	23.3		7787	1700	
515	80	1.4	17.5		8571	1700	
483	100	1.1	14.0		9232	1700	
750	7.5	16.1	186.7	GRV***130***	5092	1500	78
820	10	13.5	140.0		5605	1845	
920	15	10.3	93.3		6416	2070	
910	20	7.8	70.0		7062	2100	
930	25	6.5	56.0		7607	2100	
1040	30	6.4	46.7		8084	2100	
1050	40	4.9	35.0		8897	2100	
980	50	3.8	28.0		9584	2100	
900	60	3.1	23.3		10185	2100	
840	80	2.3	17.5		11210	2100	
740	100	1.7	14.0		12076	2100	
1200	7.5	25.8	186.7	GRV***150***	6962	1950	78
1240	10	20.2	140.0		7663	2267	
1250	15	13.9	93.3		8771	2285	
1300	20	11.1	70.0		9654	2674	
1200	25	8.4	56.0		10400	2800	
1200	30	7.1	46.7		11051	2800	
1550	40	7.3	35.0		12163	2800	
1400	50	5.4	28.0		13103	2800	
1260	60	4.2	23.3		13924	2800	
1150	80	3.1	17.5		15325	2800	
1000	100	2.3	14.0		16508	2800	

n_1=900

M_2 (Nm)	i	P_1 (kW)	n_2 (min^{-1})	减速器型号 Type	Fr_2 (N)	Fr_1 (N)	
20	5	0.44	180.0	GRV***030***	692	175	78
20	7.5	0.30	120.0		792	175	
20	10	0.24	90.0		871	197	
20	15	0.17	60.0		997	197	
20	20	0.13	45.0		1098	210	
23	25	0.14	36.0		1183	210	
21	30	0.11	30.0		1257	210	
20	40	0.09	22.5		1383	210	
18	50	0.07	18.0		1490	210	
17	60	0.06	15.0		1583	210	
15	80	0.04	11.3		1743	210	
40	5	0.87	180.0	GRV***040***	1331	290	78
44	7.5	0.65	120.0		1524	319	
44	10	0.50	90.0		1677	350	
45	15	0.36	60.0		1920	350	
44	20	0.28	45.0		2113	350	
43	25	0.23	36.0		2276	350	
49	30	0.23	30.0		2419	350	
45	40	0.17	22.5		2662	350	
42	50	0.14	18.0		2868	350	
39	60	0.11	15.0		3047	350	
35	80	0.09	11.3		3354	350	
32	100	0.07	9.0		3490	350	
75	5	1.6	180.0	GRV***050***	1827	400	78
84	7.5	1.2	120.0		2091	448	
84	10	0.94	90.0		2302	490	
84	15	0.67	60.0		2635	490	
77	20	0.48	45.0		2900	490	
75	25	0.39	36.0		3124	490	
90	30	0.42	30.0		3320	490	
82	40	0.31	22.5		3654	490	
77	50	0.25	18.0		3936	490	
72	60	0.21	15.0		4183	490	
68	80	0.16	11.3		4604	490	
56	100	0.12	9.0		4840	490	
151	7.5	2.2	120.0	GRV***063***	2734	580	78
153	10	1.7	90.0		3009	661	
155	15	1.2	60.0		3444	670	
148	20	0.91	45.0		3791	700	
137	25	0.69	36.0		4084	700	
175	30	0.79	30.0		4339	700	
160	40	0.58	22.5		4776	700	
145	50	0.45	18.0		5145	700	
138	60	0.37	15.0		5467	700	
128	80	0.29	11.3		6018	700	
124	100	0.25	9.0		6270	700	
215	7.5	3.1	120.0	GRV***075***	3227	810	78
230	10	2.5	90.0		3551	975	
235	15	1.8	60.0		4065	980	
235	20	1.4	45.0		4474	980	
215	25	1.1	36.0		4820	980	
260	30	1.1	30.0		5122	980	
240	40	0.83	22.5		5637	980	
220	50	0.65	18.0		6073	980	
210	60	0.54	15.0		6453	980	
200	80	0.43	11.3		7103	980	
190	100	0.36	9.0		7380	980	

n_1=900

M_2 (Nm)	i	P_1 (kW)	n_2 (min^{-1})	减速器型号 Type	Fr_2 (N)	Fr_1 (N)	
340	7.5	4.8	120.0	GRV***090***	3570	1040	78
370	10	4.0	90.0		3929	1270	
420	15	3.1	60.0		4498	1270	
390	20	2.3	45.0		4951	1270	
370	25	1.8	36.0		5333	1270	
460	30	1.9	30.0		5667	1270	
410	40	1.4	22.5		6238	1270	
390	50	1.1	18.0		6719	1270	
350	60	0.86	15.0		7140	1270	
315	80	0.63	11.3		7859	1270	
280	100	0.49	9.0		8180	1270	
650	7.5	9.2	120.0	GRV***110***	4511	1390	78
713	10	7.6	90.0		4965	1700	
759	15	5.6	60.0		5684	1700	
725	20	4.1	45.0		6256	1700	
759	25	3.5	36.0		6739	1700	
840	30	3.5	30.0		7161	1700	
794	40	2.5	22.5		7882	1700	
748	50	2.0	18.0		8491	1700	
682	60	1.6	15.0		9023	1700	
567	80	1.1	11.3		9931	1700	
515	100	0.84	9.0		10320	1700	
880	7.5	12.3	120.0	GRV***130***	5901	1740	78
960	10	10.3	90.0		6494	2100	
1060	15	7.8	60.0		7434	2100	
1040	20	5.8	45.0		8182	2100	
1050	25	4.8	36.0		8814	2100	
1170	30	4.7	30.0		9366	2100	
1100	40	3.5	22.5		10309	2100	
1050	50	2.7	18.0		11105	2100	
940	60	2.1	15.0		11801	2100	
860	80	1.6	11.3		12989	2100	
780	100	1.2	9.0		13500	2100	
1400	7.5	19.5	120.0	GRV***150***	8067	2270	78
1480	10	15.7	90.0		8878	2700	
1450	15	10.5	60.0		10163	2645	
1500	20	8.4	45.0		11186	2800	
1380	25	6.3	36.0		12050	2800	
1400	30	5.4	30.0		12805	2800	
1800	40	5.7	22.5		14094	2800	
1600	50	4.1	18.0		15182	2800	
1440	60	3.2	15.0		16133	2800	
1300	80	2.4	11.3		17757	2800	
1150	100	1.8	9.0		18000	2800	

n_1=500

M_2 (Nm)	i	P_1 (kW)	n_2 (min^{-1})	减速器型号 Type	Fr_2 (N)	Fr_1 (N)	
24	5	0.30	100.0	GRV030	841	210	78
24	7.5	0.21	66.7		963	210	
24	10	0.16	50.0		1060	210	
24	15	0.12	33.3		1213	210	
23	20	0.09	25.0		1336	210	
29	25	0.10	20.0		1439	210	
26	30	0.08	16.7		1529	210	
23	40	0.06	12.5		1683	210	
21	50	0.05	10.0		1813	210	
19	60	0.04	8.3		1830	210	
17	80	0.03	6.3		1830	210	
49	5	0.60	100.0	GRV040	1619	350	78
54	7.5	0.45	66.7		1853	350	
54	10	0.35	50.0		2040	350	
55	15	0.26	33.3		2335	350	
52	20	0.19	25.0		2570	350	
49	25	0.15	20.0		2769	350	
58	30	0.16	16.7		2942	350	
53	40	0.12	12.5		3238	350	
49	50	0.10	10.0		3488	350	
46	60	0.08	8.3		3490	350	
40	80	0.06	6.3		3490	350	
36	100	0.05	5.0		3490	350	
92	5	1.1	100.0	GRV050	2222	490	78
103	7.5	0.86	66.7		2544	490	
103	10	0.67	50.0		2800	490	
103	15	0.47	33.3		3205	490	
93	20	0.33	25.0		3528	490	
91	25	0.28	20.0		3800	490	
108	30	0.29	16.7		4038	490	
98	40	0.22	12.5		4445	490	
91	50	0.17	10.0		4788	490	
83	60	0.14	8.3		4840	490	
75	80	0.11	6.3		4840	490	
65	100	0.09	5.0		4840	490	
184	7.5	1.5	66.7	GRV063	3325	700	78
185	10	1.2	50.0		3660	700	
187	15	0.85	33.3		4190	700	
178	20	0.63	25.0		4611	700	
164	25	0.48	20.0		4967	700	
200	30	0.54	16.7		5279	700	
185	40	0.40	12.5		5810	700	
173	50	0.32	10.0		6259	700	
160	60	0.26	8.3		6270	700	
137	80	0.19	6.3		6270	700	
128	100	0.16	5.0		6270	700	
260	7.5	2.1	66.7	GRV075	3925	980	78
270	10	1.7	50.0		4320	980	
280	15	1.2	33.3		4945	980	
285	20	0.98	25.0		5443	980	
255	25	0.73	20.0		5863	980	
300	30	0.77	16.7		6231	980	
280	40	0.58	12.5		6858	980	
250	50	0.44	10.0		7380	980	
240	60	0.37	8.3		7380	980	
215	80	0.29	6.3		7380	980	
210	100	0.24	5.0		7380	980	

n_1=500

M_2 (Nm)	i	P_1 (kW)	n_2 (min^{-1})	减速器型号 Type	Fr_2 (N)	Fr_1 (N)	
410	7.5	3.3	66.7	GRV090	4343	1270	78
435	10	2.7	50.0		4780	1270	
490	15	2.1	33.3		5472	1270	
470	20	1.6	25.0		6022	1270	
440	25	1.2	20.0		6487	1270	
550	30	1.4	16.7		6894	1270	
480	40	0.95	12.5		7588	1270	
450	50	0.75	10.0		8174	1270	
400	60	0.59	8.3		8180	1270	
365	80	0.45	6.3		8180	1270	
330	100	0.35	5.0		8180	1270	
794	7.5	6.4	66.7	GRV110	5488	1700	78
851	10	5.2	50.0		6040	1700	
909	15	3.9	33.3		6914	1700	
863	20	2.8	25.0		7610	1700	
909	25	2.4	20.0		8198	1700	
1000	30	2.4	16.7		8711	1700	
932	40	1.7	12.5		9588	1700	
880	50	1.4	10.0		10320	1700	
781	60	1.1	8.3		10320	1700	
662	80	0.76	6.3		10320	1700	
599	100	0.59	5.0		10320	1700	
1080	7.5	8.6	66.7	GRV130	7178	2100	78
1160	10	7.1	50.0		7900	2100	
1300	15	5.5	33.3		9043	2100	
1230	20	4.0	25.0		9953	2100	
1200	25	3.2	20.0		10722	2100	
1400	30	3.3	16.7		11394	2100	
1300	40	2.4	12.5		12540	2100	
1220	50	1.9	10.0		13500	2100	
1070	60	1.5	8.3		13500	2100	
970	80	1.1	6.3		13500	2100	
860	100	0.85	5.0		13500	2100	
1700	7.5	13.5	66.7	GRV150	9812	2800	78
1780	10	10.7	50.0		10800	2800	
1730	15	7.2	33.3		12363	2800	
1820	20	5.9	25.0		13607	2800	
1630	25	4.3	20.0		14658	2800	
1670	30	3.8	16.7		15576	2800	
2120	40	3.9	12.5		17144	2800	
1870	50	2.9	10.0		18000	2800	
1680	60	2.3	8.3		18000	2800	
1530	80	1.7	6.3		18000	2800	
1350	100	1.3	5.0		18000	2800	

9.3 GRV+GMRV 性能参数

9.3 GRV+GMRV Performance

n_1=1400

M_2 (Nm)	i	P_1 (kW)	n_2 (min^{-1})	减速器型号 Type	Fr_2 (N)	Fr_1 (N)	
73	300	0.08	4.7	GRV***030/040***	3490	210	78
65	400	0.06	3.5		3490	210	
61	500	0.04	2.8		3490	210	
73	600	0.04	2.3		3490	210	
73	750	0.04	1.9		3490	210	
73	900	0.03	1.6		3490	210	
65	1200	0.02	1.2		3490	210	
73	1500	0.02	0.9		3490	210	
73	1800	0.02	0.8		3490	210	
65	2400	0.01	0.58		3490	210	
65	3200	0.01	0.4		3490	210	
33	4000	0.01	0.4		3490	210	
29	5000	0.01	0.28		3490	210	
145	300	0.15	4.7	GRV***030/050***	4840	210	78
124	400	0.10	3.5		4840	210	
120	500	0.09	2.8		4840	210	
145	600	0.08	2.3		4840	210	
145	750	0.07	1.9		4840	210	
145	900	0.06	1.6		4840	210	
124	1200	0.04	1.2		4840	210	
145	1500	0.04	0.93		4840	210	
145	1800	0.04	0.78		4840	210	
124	2400	0.03	0.6		4840	210	
120	3000	0.02	0.5		4840	210	
82	4000	0.02	0.35		4840	210	
82	4800	0.02	0.29		4840	210	
230	300	0.24	4.7	GRV***030/063***	6270	210	78
230	400	0.19	3.5		6270	210	
216	500	0.15	2.8		6270	210	
230	600	0.13	2.3		6270	210	
216	750	0.11	1.9		6270	210	
198	900	0.09	1.6		6270	210	
230	1200	0.08	1.2		6270	210	
216	1500	0.06	0.93		6270	210	
198	1800	0.05	0.78		6270	210	
230	2400	0.05	0.58		6270	210	
216	3000	0.04	0.47		6270	210	
172	4000	0.03	0.35		6270	210	
150	5000	0.02	0.28		6270	210	
390	300	0.36	4.7	GRV***040/075***	7380	350	78
360	400	0.27	3.5		7380	350	
320	500	0.21	2.8		7380	350	
390	600	0.19	2.3		7380	350	
390	750	0.16	1.9		7380	350	
390	900	0.14	1.6		7380	350	
360	1200	0.11	1.2		7380	350	
390	1500	0.10	0.93		7380	350	
390	1800	0.09	0.78		7380	350	
360	2400	0.07	0.58		7380	350	
320	3000	0.05	0.47		7380	350	
250	4000	0.04	0.35		7380	350	
230	5000	0.03	0.28		7380	350	
610	300	0.56	4.7	GRV***040/090***	8180	350	78
610	400	0.43	3.5		8180	350	
560	500	0.34	2.8		8180	350	
610	600	0.30	2.3		8180	350	
560	750	0.23	1.9		8180	350	
505	900	0.19	1.6		8180	350	
610	1200	0.17	1.2		8180	350	
560	1500	0.14	0.93		8180	350	

n_1=1400

M_2 (Nm)	i	P_1 (kW)	n_2 (min^{-1})	减速器型号 Type	Fr_2 (N)	Fr_1 (N)	
505	1800	0.11	0.78	GRV***040/090***	8180	350	78
610	2400	0.11	0.58		8180	350	
560	3000	0.08	0.47		8180	350	
460	4000	0.08	0.35		8180	350	
410	5000	0.06	0.28		8180	350	
1265	300	1.1	4.7	GRV***050/110***	10320	490	78
1185	400	0.79	3.5		10320	490	
1100	500	0.61	2.8		10320	490	
1185	600	0.55	2.3		10320	490	
1265	750	0.49	1.9		10320	490	
1265	900	0.43	1.6		10320	490	
1185	1200	0.31	1.2		10320	490	
1265	1500	0.30	0.93		10320	490	
1265	1800	0.26	0.78		10320	490	
1185	2400	0.19	0.58		10320	490	
1100	3000	0.15	0.47		10320	490	
819	4000	0.13	0.35		10320	490	
746	5000	0.10	0.28		10320	490	
1760	300	1.5	4.7	GRV***063/130***	13500	700	78
1650	400	1.1	3.5		13500	700	
1550	500	0.86	2.8		13500	700	
1650	600	0.76	2.3		13500	700	
1760	750	0.66	1.9		13500	700	
1760	900	0.58	1.6		13500	700	
1650	1200	0.43	1.2		13500	700	
1760	1500	0.39	0.93		13500	700	
1760	1800	0.35	0.78		13500	700	
1650	2400	0.25	0.58		13500	700	
1550	3000	0.20	0.47		13500	700	
1220	4000	0.15	0.35		13500	700	
1100	5000	0.11	0.28		13500	700	
2340	150	3.4	9.3	GRV***063/150***	18000	700	78
2340	200	2.7	7.0		18000	700	
2050	250	1.9	5.6		18000	700	
2340	300	1.9	4.7		18000	700	
2670	400	1.8	3.5		18000	700	
2330	500	1.4	2.8		18000	700	
2670	600	1.3	2.3		18000	700	
2330	750	0.98	1.9		18000	700	
2100	900	0.71	1.6		18000	700	
2670	1200	0.75	1.2		18000	700	
2100	1800	0.44	0.8		18000	700	
2670	2400	0.46	0.6		18000	700	
2330	3000	0.34	0.5		18000	700	
1880	4000	0.23	0.4		18000	700	
1650	5000	0.18	0.3		18000	700	

9.4 UDL(TXF)+GMRV 性能参数

9.4 UDL(TXF)+GMRV Performance

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	I	减速器型号 Type		
0.18	117~22.5	9~18	12~61.5	***UDL002-GMRV040***	632-4	77
	88~17	12~23	16~82			
	58.7~11.3	17~32	24~123			
	44~8.5	22~40	32~164			
	35.2~6.8	27~47	40~205			
	29.3~5.7	30~51	48~246			
	22~4.3	37~62	64~328			
	17.6~3.4	43~60	80~410			
	22~4.3	38~63	64~328	***UDL002-GMRV050***	632-4	77
	17.6~3.4	44~73	80~410			
	14.7~2.8	50~80	96~492			
	11~2.1	59~82	128~656			
	8.8~1.7	66~79	160~820			
0.25	133~26.7	13~30	10.5~52.5	***UDL005-GMRV040*** ***TXF005-GMRV040***	711-4	77
	100~20	16~38	14~70			
	66.7~13.3	24~53	21~105			
	50~10	32~68	28~140			
	40~8	38~80	35~175			
	33.3~6.7	43~89	42~210			
	25~5	48~96	56~280			
	25~5	54~112	56~280	***UDL005-GMRV050*** ***TXF005-GMRV050***	711-4	77
	20~4	59~122	70~350			
	16.7~3.3	66~135	84~420			
	12.5~2.5	72~120	112~560			
0.37	133~26.7	19~36	10.5~52.5	***UDL005-GMRV050*** ***TXF005-GMRV050***	712-4	77
	100~20	25~47	14~70			
	66.7~13.3	36~65	21~105			
	50~10	46~82	28~140			
	40~8	55~97	35~175			
	33.3~6.7	61~107	42~210			
	25~5	76~124	56~280			
	20~4	89~120	70~350			
	25~5	79~134	56~280	***UDL005-GMRV063*** ***TXF005-GMRV063***	712-4	77
	20~4	92 ~ 155	70~350			
	16.7~3.3	104~173	84~420			
	12.5~2.5	125~173	112~560			
	10~2	139~150	140~700			
0.55	133~26.7	26~49	10.5~52.5	***UDL010-GMRV063*** ***TXF010-GMRV063***	801-4	77
	100~20	34~63	14~70			
	66.7~13.3	48~88	21~105			
	50~10	62~112	28~140			
	40~8	75~133	35~175			
	33.3~6.7	81~146	42~210			
	25~5	105~179	56~280			
	20~4	123~207	70~350			
	20~4	129~216	70~350	***UDL010-GMRV075*** ***TXF010-GMRV075***	801-4	77
	16.7~3.3	146~242	84~420			
	12.5~2.5	176~250	112~560			
	12.5~2.5	189~309	112~560	***UDL010-GMRV090*** ***TXF010-GMRV090***	801-4	77
	10~2	218~350	140~700			

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	i	减速器型号 Type		
0.75	133~26.7	39~73	10.5~52.5	***UDL010-GMRV063*** ***TXF010-GMRV063***	802-4	77
	100~20	51~94	14~70			
	66.7~13.3	72~132	21~105			
	50~10	92~168	28~140			
	40~8	112~199	35~175			
	33.3~6.7	126~219	42~210			
	25~5	156 ~ 232	56~280			
	20~4	185~310	70~350			
	20~4	192~320	70~350	***UDL010-GMRV075*** ***TXF010-GMRV075***	802-4	77
	16.7~3.3	219~300	84~420			
	16.7~3.3	230~389	84~420	***UDL010-GMRV090*** ***TXF010-GMRV090***	802-4	77
	12.5~2.5	265~428	112~560			
	10~2	303~410	140~700			
	12.5~2.5	302~503	112~560	***UDL010-GMRV110*** ***TXF010-GMRV110***	802-4	77
	10~2	348~575	140~700			
1.1	133~26.7	59~111	10.5~52.5	***UD020-GMRV075***	90S-4	77
	100~20	77~144	14~70			
	66.7~13.3	110~203	21~105			
	50~10	142~258	28~140			
	40~8	172~308	35~175			
	33.3~6.7	195~340	42~210			
	25~5	245~360	56~280			
	100~20	78~146	14~70	***UD020-GMRV090***	90S-4	77
	66.7~13.3	113~208	21~105			
	50~10	146~266	28~140			
	40~8	177~320	35~175			
	33.3~6.7	202~356	42~210			
	25~5	256~442	56~280			
	20~4	304~517	70~350			
	20~4	320~550	70~350	***UD020-GMRV110***	90S-4	77
	16.7~3.3	368~625	84~420			
	12.5~2.5	455~754	112~560			
	10~2	522~710	140~700			
	16.7~3.3	373~623	84~420	***UD020-GMRV130***	90S-4	77
	12.5~2.5	460~749	112~560			
	10~2	531~868	140~700			

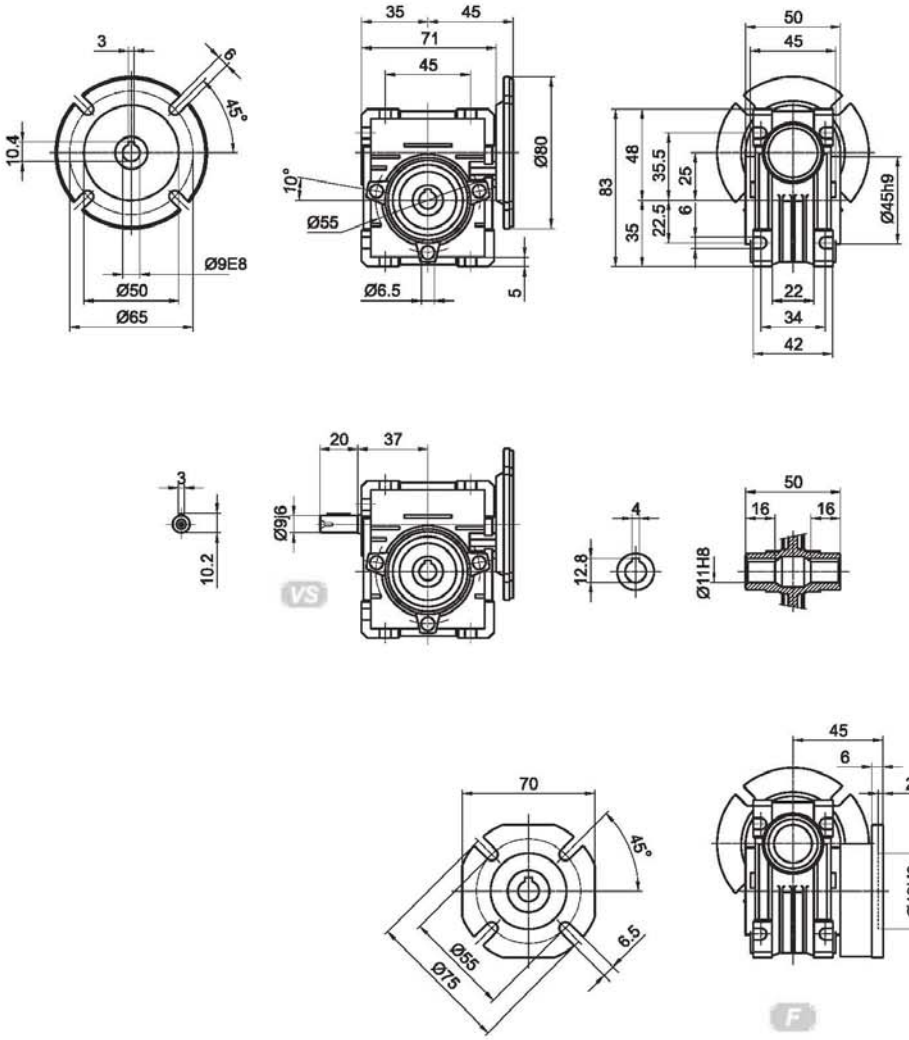
P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	i	减速器型号 Type		
1.5	133~26.7	78~148	10.5~52.5	***UD020***-GMRV***075***	90L-4	77
	100~20	102~192	14~70			
	66.7~13.3	147~270	21~105			
	50~10	190~344	28~140			
	40~8	229~330	35~175			
	33.3~6.7	260~390	42~210			
	25~5	327~360	56~280			
	133~26.7	77~150	10.5~52.5	***UD020***-GMRV***090***	90L-4	77
	100~20	104~195	14~70			
	66.7~13.3	150~277	21~105			
	50~10	194~355	28~140			
	40~8	236~427	35~175			
	33.3~6.7	270~474	42~210			
	25~5	341~589	56~280			
	20~4	406~560	70~350			
	20~4	426~733	70~350	***UD020***-GMRV***110***	90L-4	77
	16.7~3.3	490~833	84~420			
	16.7~3.3	498~831	84~420	***UD020***-GMRV***130***	90L-4	77
	12.5~2.5	614~999	112~560			
	10~2	696~1100	140~700			
2.2	133~26.7	120~226	10.5~52.5	***UD030***-GMRV***110***	100L1-4	77
	100~20	157~294	14~70			
	66.7~13.3	228~418	21~105			
	50~10	298~549	28~140			
	40~8	364~664	35~175			
	33.3~6.7	413~717	42~210			
	25~5	533~931	56~280			
	25~5	542~932	56~280	***UD030***-GMRV***130***	100L1-4	77
	20~4	648~1097	70~350			
	16.7~3.3	746~1246	84~420			
	12.5~2.5	921~1499	112~560			
	10~2	1040~1690	140~700			
3.0	133~26.7	160~302	10.5~52.5	***UD030***-GMRV***110***	100L2-4	77
	100~20	210~392	14~70			
	66.7~13.3	304~558	21~105			
	50~10	398~732	28~140			
	40~8	485~885	35~175			
	33.3~6.7	547~956	42~210			
	25~5	711~1030	56~280			
	133~26.7	160~301	10.5~52.5	***UD030***-GMRV***130***	100L2-4	77
	100~20	211~395	14~70			
	66.7~13.3	307~563	21~105			
	50~10	402~733	28~140			
	40~8	490~885	35~175			
	33.3~6.7	562~973	42~210			
	25~5	720~1242	56~280			
	20~4	864~1463	70~350			

P_1 (kW)	n_2 (min^{-1})	M_2 (Nm)	i	减速器型号 Type		
4.0	133~26.7	213~402	10.5~52.5	***UD050***-GMRV***110***	112M4	77
	100~20	279~523	14~70			
	66.7~13.3	405~744	21~105			
	50~10	530~975	28~140			
	40~8	647~1020	35~175			
	133~26.7	214~401	10.5~52.5	***UD050***-GMRV***130***	112M4	77
	100~20	281~527	14~70			
	66.7~13.3	410~751	21~105			
	50~10	536~978	28~140			
	40~8	653~1180	35~175			
	33.3~6.7	749~1298	42~210			
	25~5	960~1650	56~280			

10.0 减速器尺寸图
SPEED REDUCER UNIT DIMENSIONS CHARTS

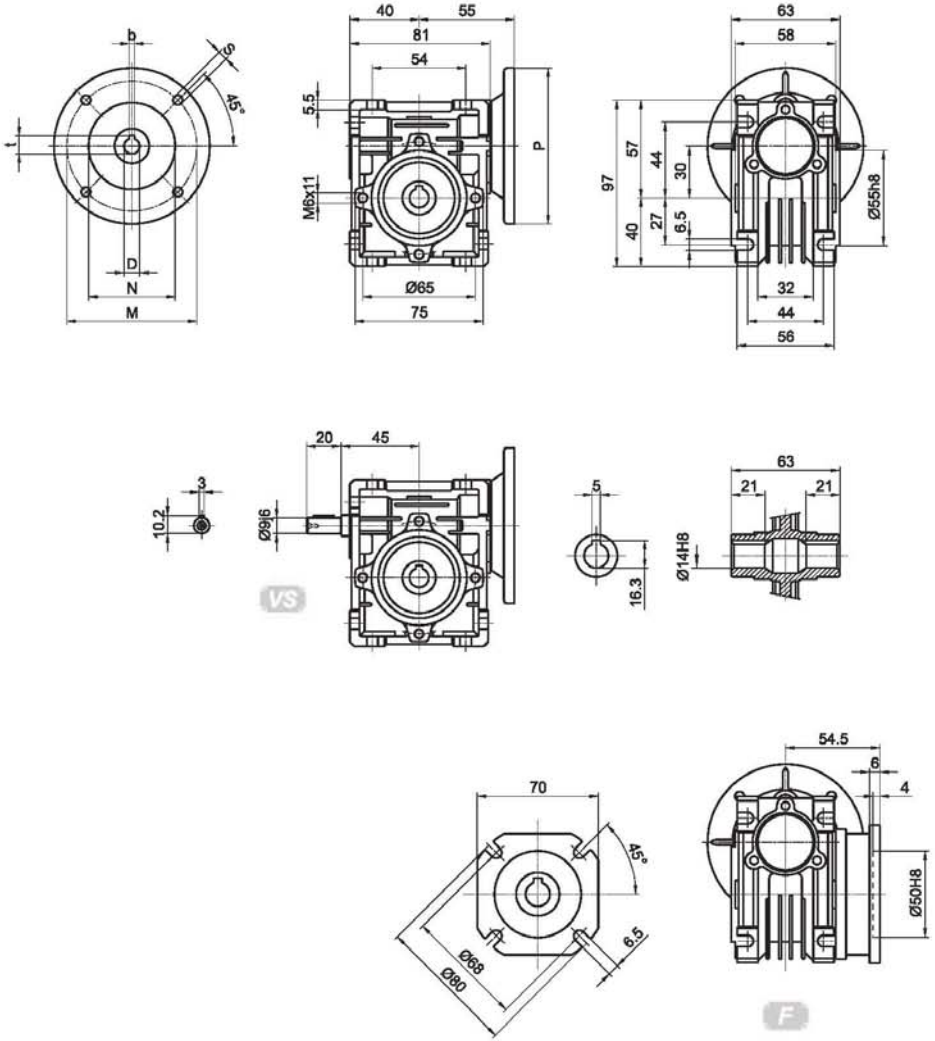
10.1 GMRV 尺寸图 10.1 GMRV *Dimensions charts*

GMRV025



*不带电机重量 ≈0.7kg
*Weight without motor ≈0.7kg

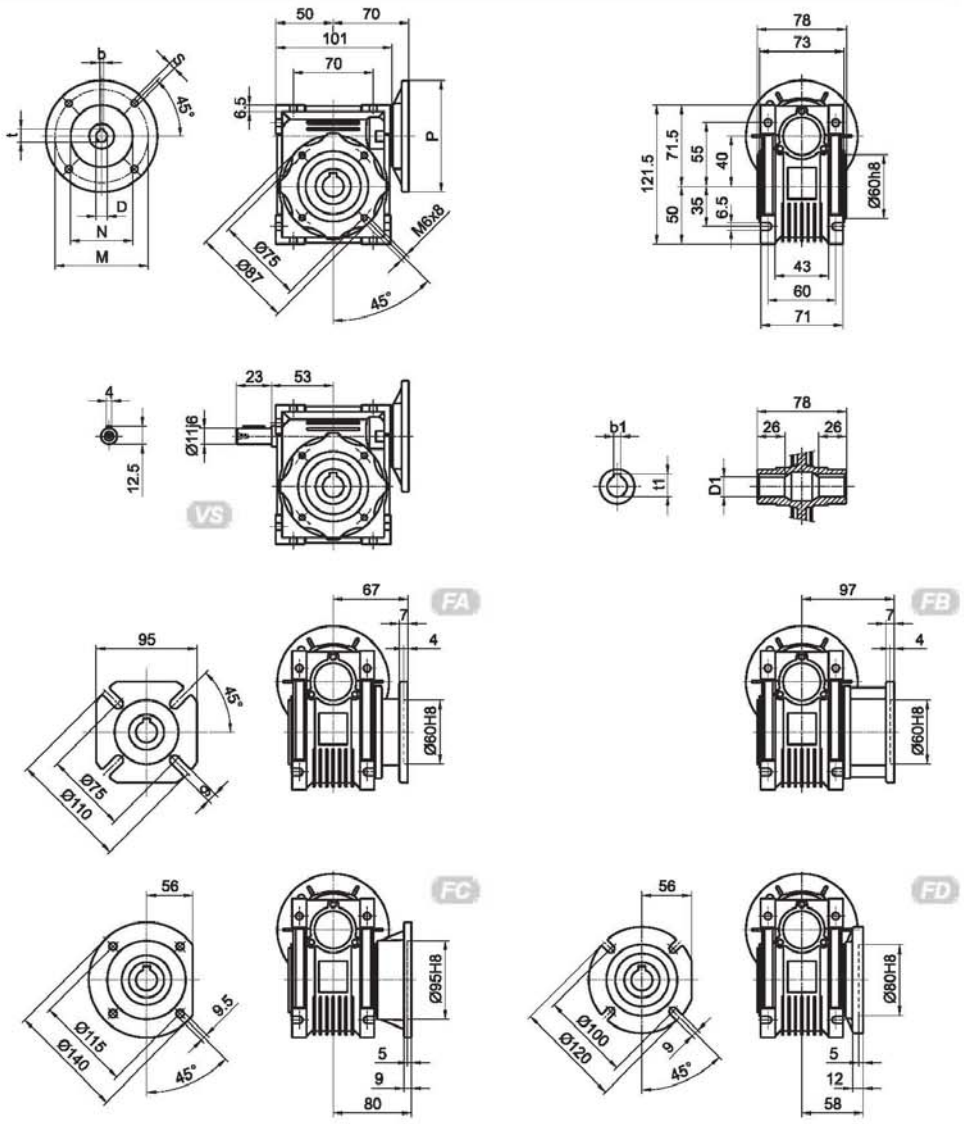
GMRV030



PAM / IEC	D_{E8}	b	t	P	M	N	S
63B5	11	4	12.8	140	115	95	9
63B14	11	4	12.8	90	75	60	5.5
56B5	9	3	10.4	120	100	80	6.5
56B14	9	3	10.4	80	65	50	5.5

*不带电机重量 ≈1.2kg
*Weight without motor ≈1.2kg

GMRV040

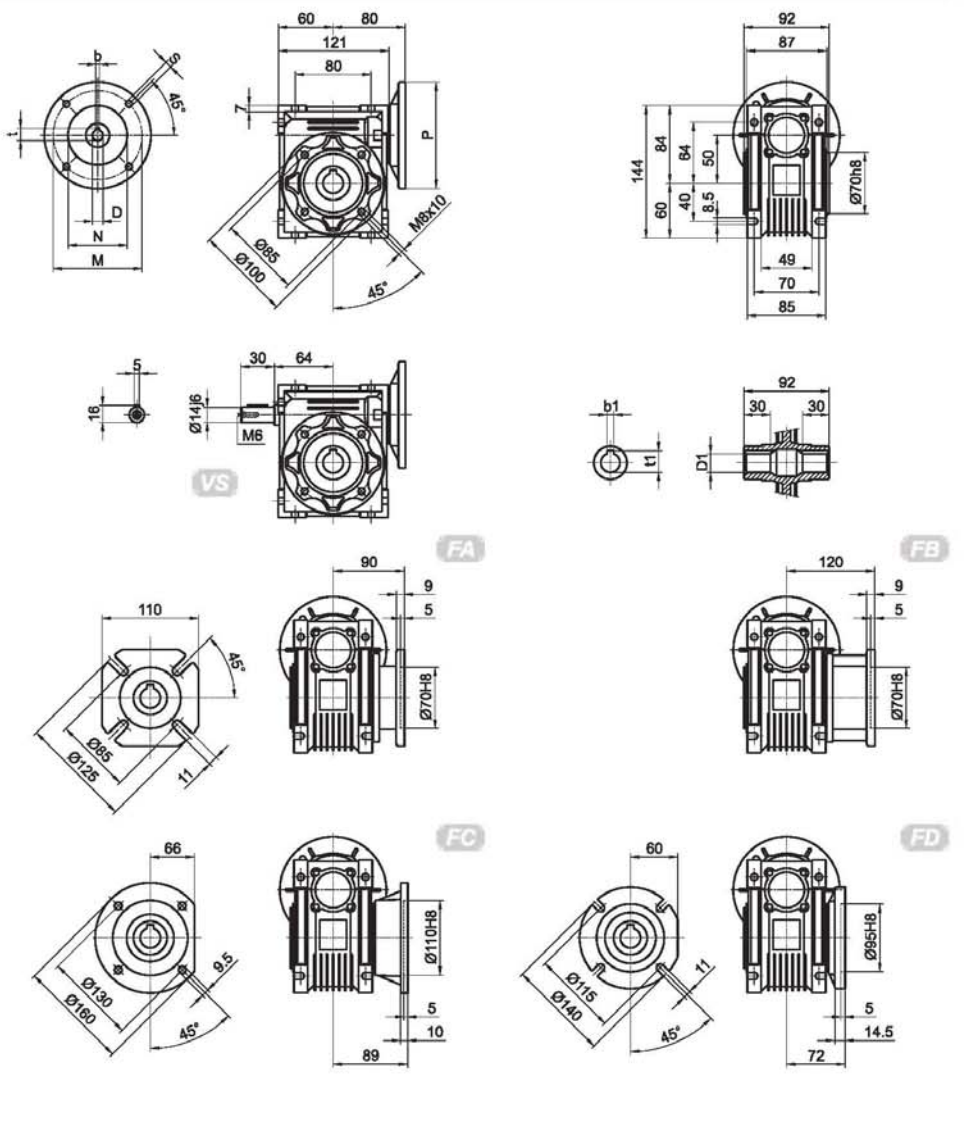


PAM IEC	D_{E8}	b	t	P	M	N	S
71B5	14	5	16.3	160	130	110	8.5
71B14	14	5	16.3	105	85	70	6.5
63B5	11	4	12.8	140	115	95	9
63B14	11	4	12.8	90	75	60	6
56B5	9	3	10.4	120	100	80	6.5

输出 Output	$D1_{H8}$	b1	t1
	18	6	20.8
	(19)	(6)	(21.8)
(..) 根据用户要求定制 (..) Only on request			

*不带电机重量 ≈2.3kg
*Weight without motor ≈2.3kg

GMRV050

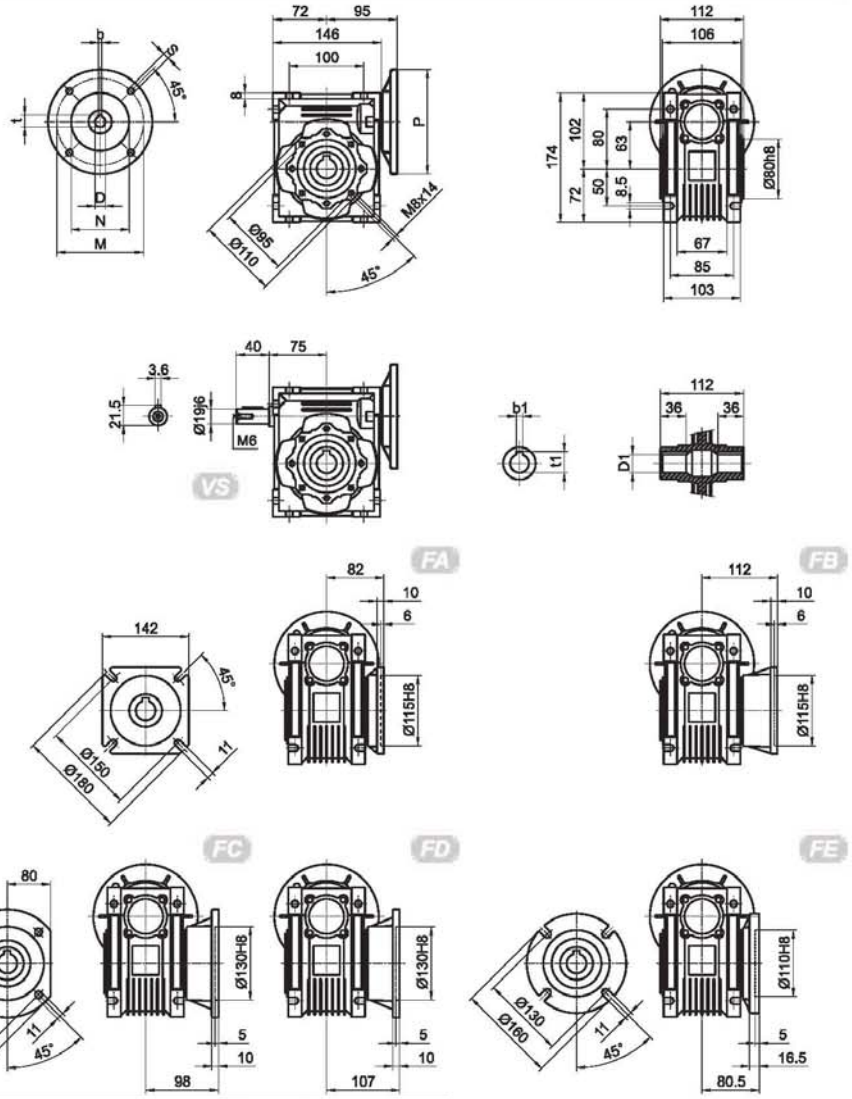


PAM IEC	D_{E8}	b	t	P	M	N	S
80B5	19	6	21.8	200	165	130	11
80B14	19	6	21.8	120	100	80	6.5
71B5	14	5	16.3	160	130	110	8.5
71B14	14	5	16.3	105	85	70	7
63B5	11	4	12.8	140	115	95	8.5

输出 Output	$D1_{H8}$	b1	t1
	25	8	28.3
	(24)	(8)	(27.3)
(..) 根据用户要求定制 (..) Only on request			

*不带电机重量 ≈3.5kg
*Weight without motor ≈3.5kg

GMRV063

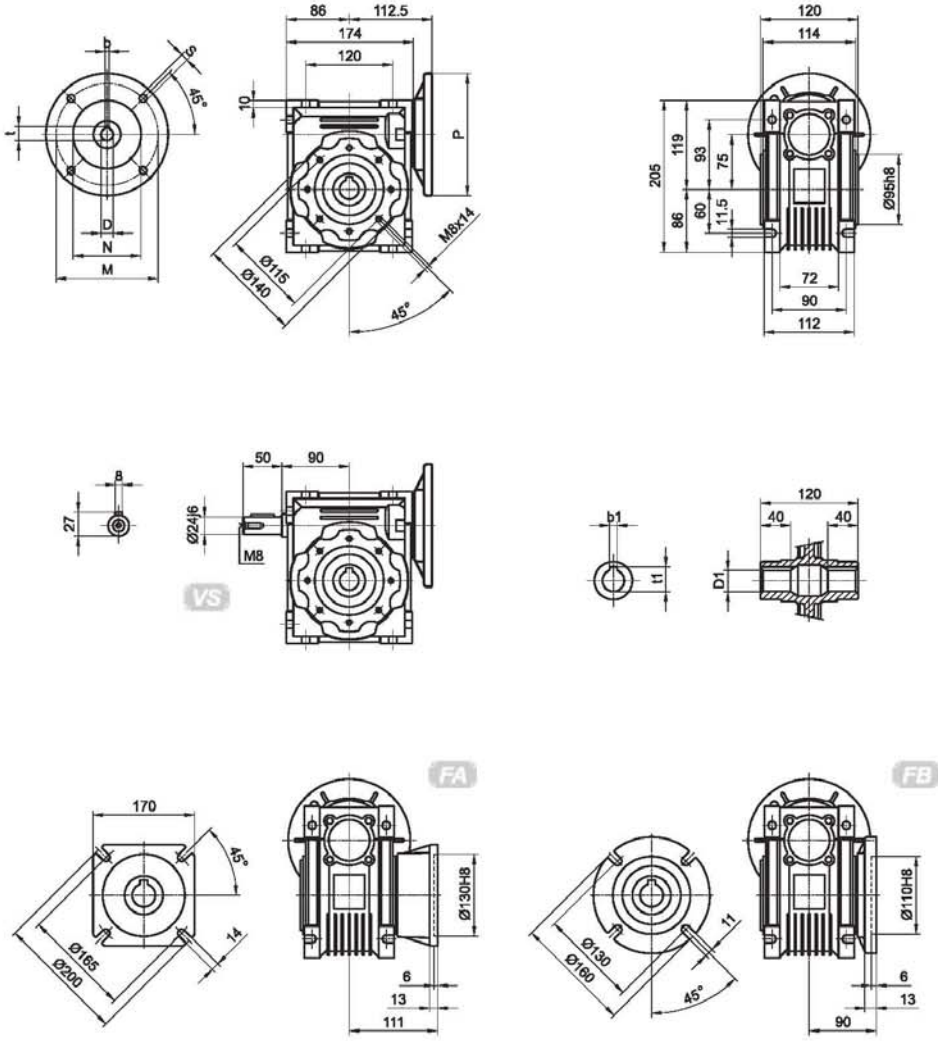


PAM / IEC	D_{E6}	b	t	P	M	N	S
90B5	24	8	27.3	200	165	130	11
90B14	24	8	27.3	140	115	95	9
80B5	19	6	21.8	200	165	130	11
80B14	19	6	21.8	120	100	80	7
71B5	14	5	16.3	160	130	110	8.5
71B14	14	5	16.3	105	85	70	7

输出 Output	$D1_{H8}$	b1	t1
	25	8	28.3
	(28)	(8)	(31.3)
(..) 根据用户要求定制 (..) Only on request			

*不带电机重量 ≈6.2kg
*Weight without motor ≈6.2kg

GMRV075

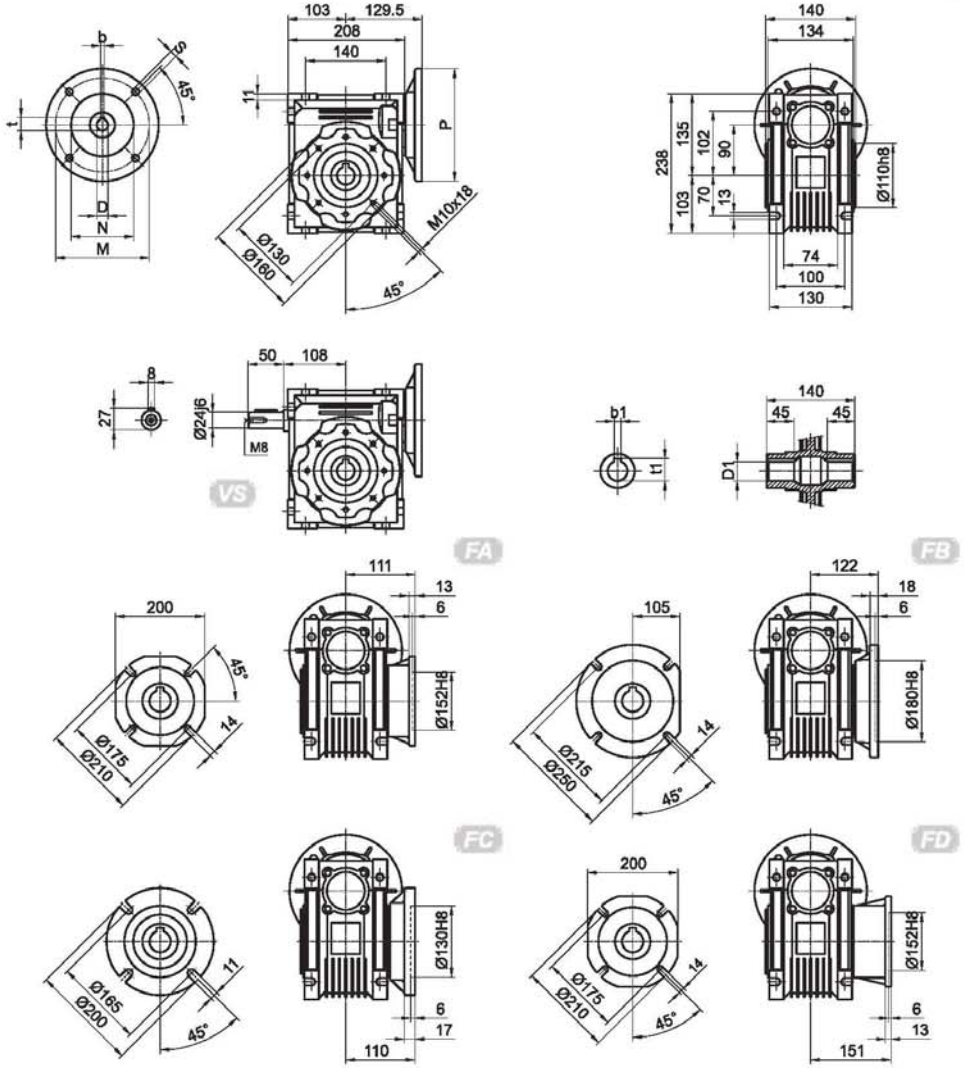


PAM / IEC	D_{E6}	b	t	P	M	N	S
100/112B5	28	8	31.3	250	215	180	13
100/112B14	28	8	31.3	160	130	110	9
90B5	24	8	27.3	200	165	130	11
90B14	24	8	27.3	140	115	95	9
80B5	19	6	21.8	200	165	130	11
80B14	19	6	21.8	120	100	80	6.5
71B5	14	5	16.3	160	130	110	9

输出 Output	$D1_{H8}$	b1	t1
	28	8	31.3
	(35)	(10)	(38.3)
(..) 根据用户要求定制 (..) Only on request			

*不带电机重量 ≈9.0kg
*Weight without motor ≈9.0kg

GMRV090

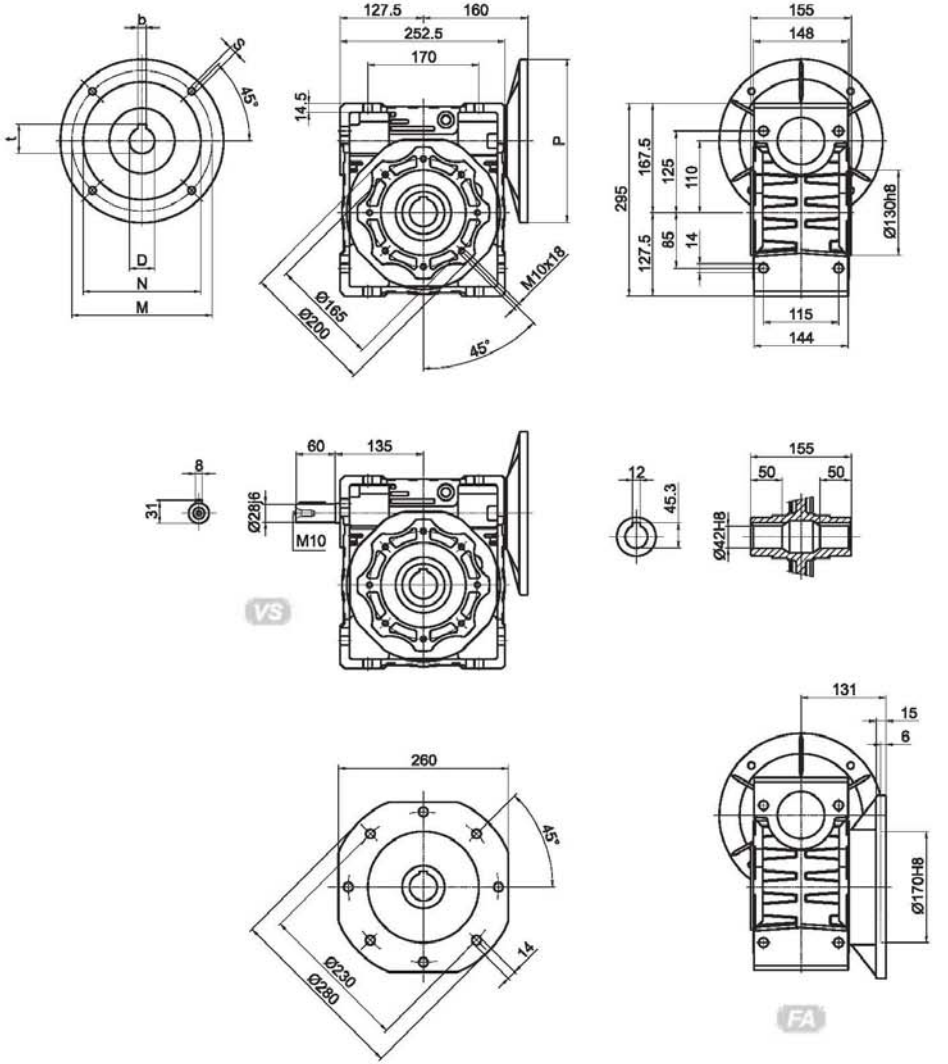


PAM / IEC	D_{E8}	b	t	P	M	N	S
100/112B5	28	8	31.3	250	215	180	13
100/112B14	28	8	31.3	160	130	110	9
90B5	24	8	27.3	200	165	130	11
90B14	24	8	27.3	140	115	95	9
80B5	19	6	21.8	200	165	130	11
80B14	19	6	21.8	120	100	80	6.5

输出 Output	$D1_{H8}$	b1	t1
	35	10	38.3
	(38)	(10)	(41.3)
(..) 根据用户要求定制 (..) Only on request			

*不带电机重量 ≈13kg
*Weight without motor ≈13kg

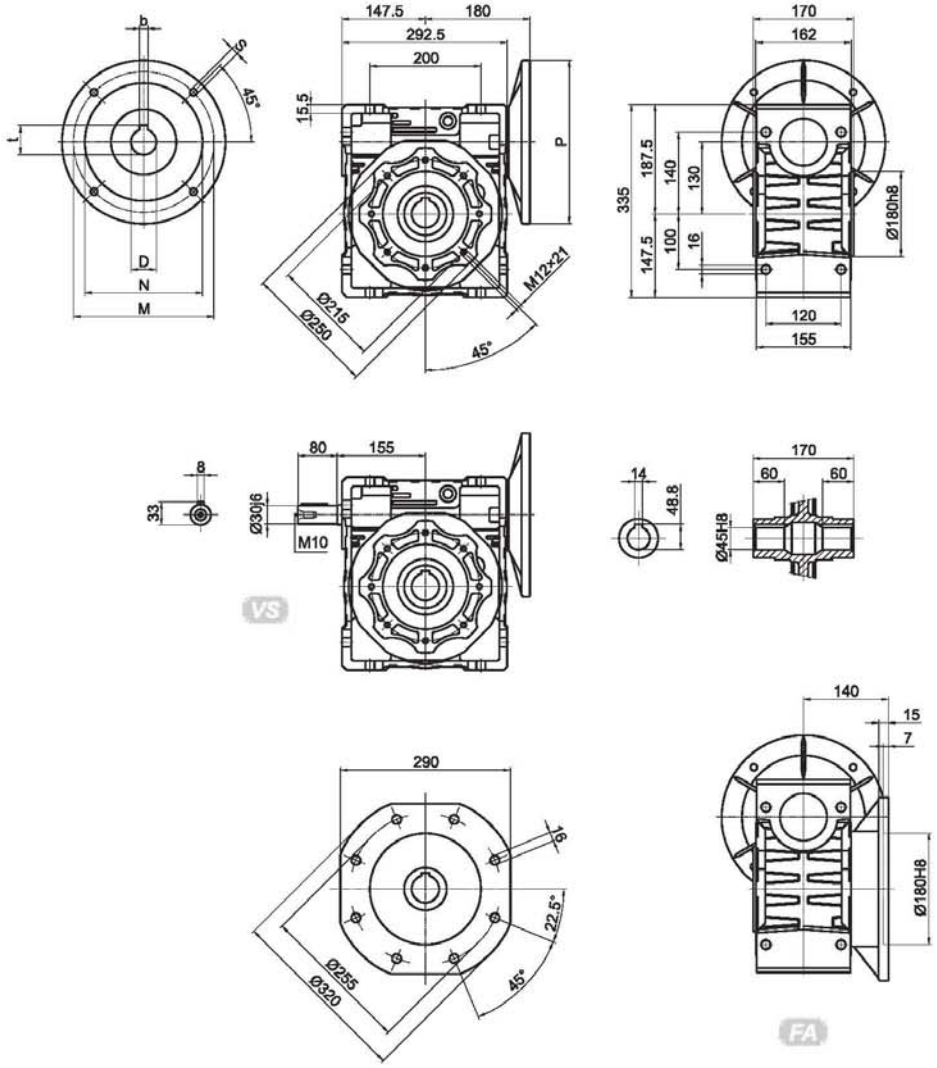
GMRV0110



PAM / IEC	D_{E8}	b	t	P	M	N	S
132B5	38	10	41.3	300	265	230	M12
100/112B5	28	8	31.3	250	215	180	13
90B5	24	8	27.3	200	165	130	11
80B5	19	6	21.8	200	165	130	11

*不带电机重量 ≈35kg
*Weight without motor ≈35kg

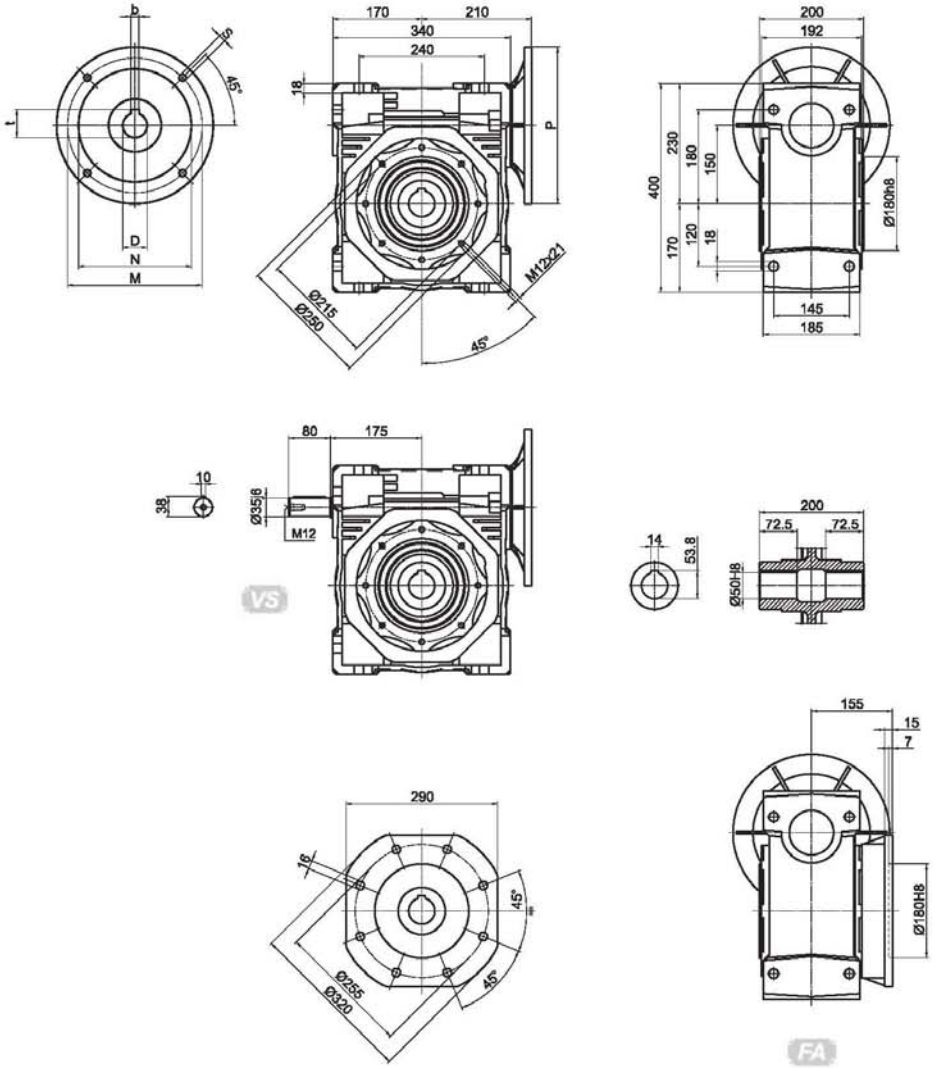
GMRV130



PAM / IEC	D_{es}	b	t	P	M	N	S
132B5	38	10	41.3	300	265	230	M12
100/112B5	28	8	31.3	250	215	180	13
90B5	24	8	27.3	200	165	130	11

*不带电机重量 ≈48kg
*Weight without motor ≈48kg

GMRV150



PAM / IEC	D_{es}	b	t	P	M	N	S
160B5	42	12	45.3	350	300	250	19
132B5	38	10	41.3	300	265	230	M12
100/112B5	28	8	31.3	250	215	180	M12

*不带电机重量 ≈84kg
*Weight without motor ≈84kg

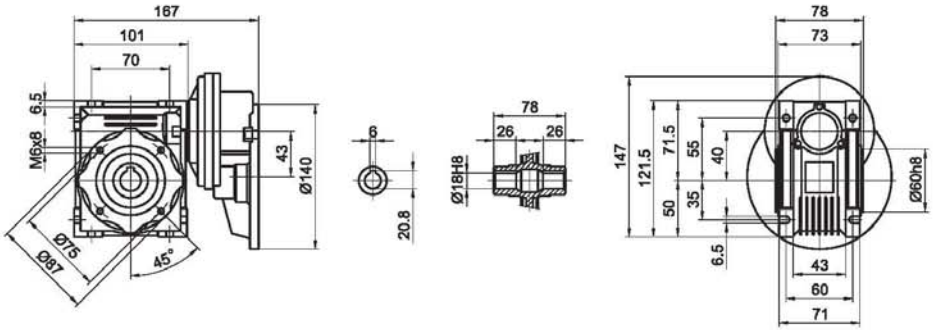
10.2 **PC+** GMRV **尺寸图**

- 关于输出法兰的尺寸，请参考GMRV有关图纸。
- 关于空心输出轴的尺寸，请参考GMRV的相关图纸。
- 关于双轴伸蜗杆的尺寸，请参考GMRV的相关图纸。

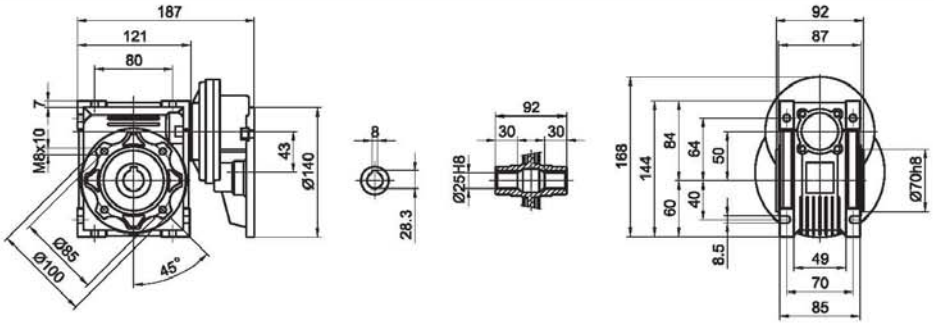
10.2 **PC+** GMRV ***Dimensions charts***

- For the dimensions of the output flanges, please consider the drawing of relevant GMRV size.
- For the dimensions of the hollow shafts in option, please consider the drawing of relevant GMRV size.
- For the dimensions of the double extention worm shafts, please consider the drawing o. f relevant GMRV size

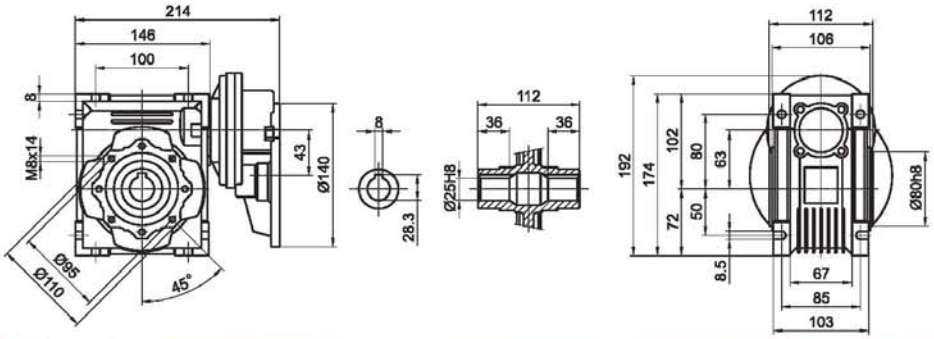
PC063 - GMRV040



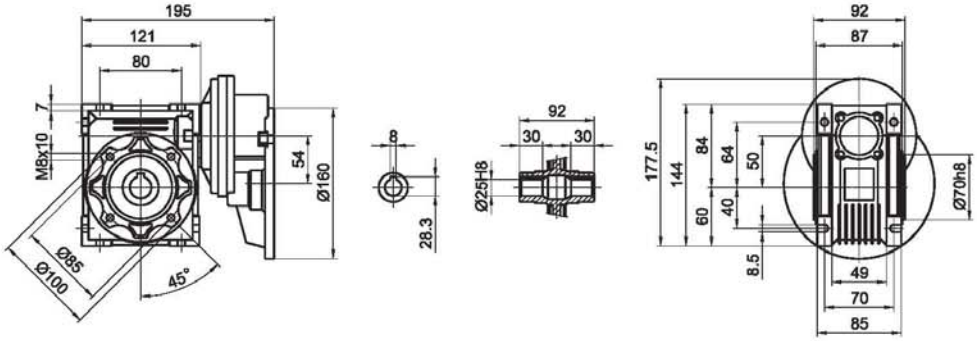
PC063 - GMRV050



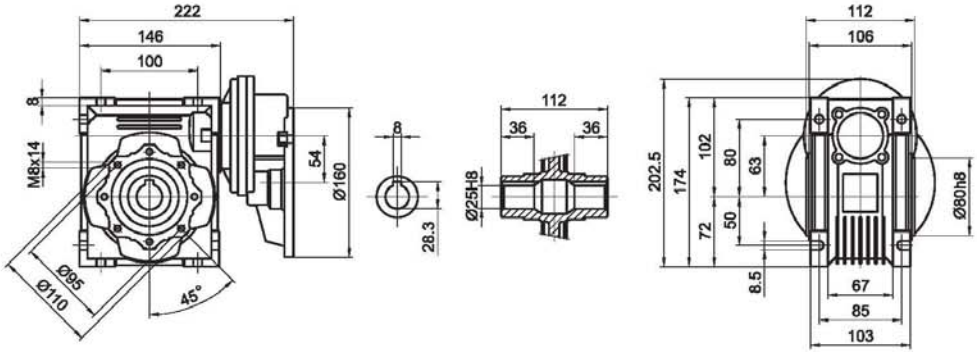
PC063 - GMRV063



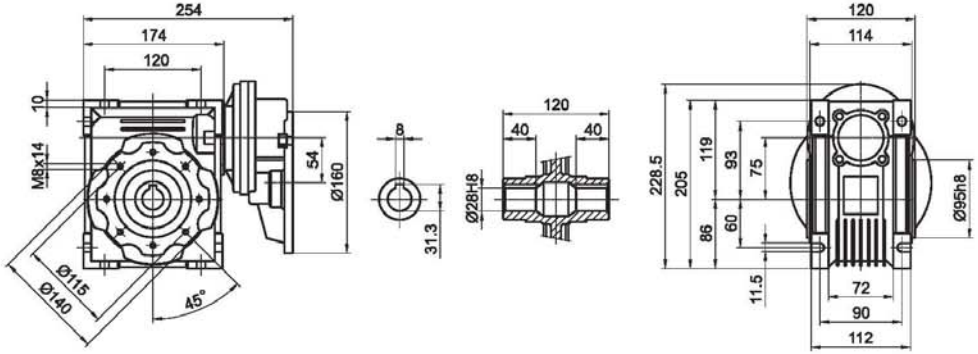
PC071 - GMRV050



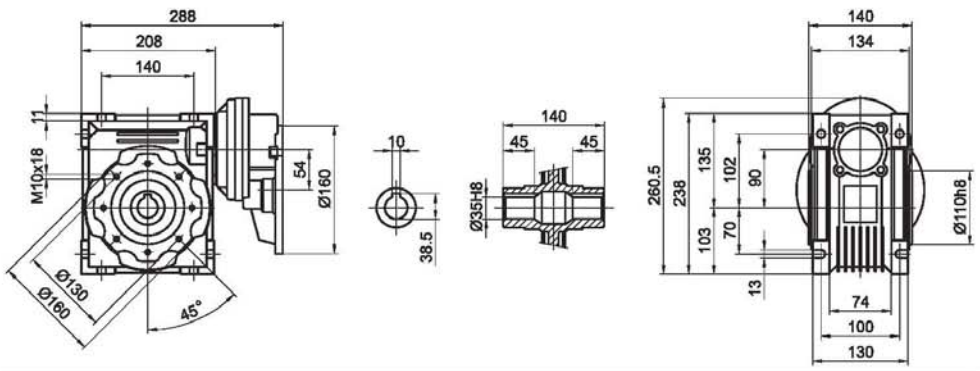
PC071 - GMRV063



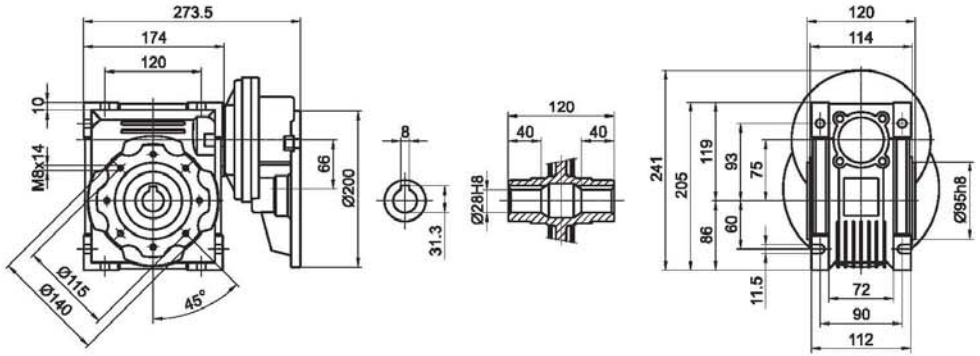
PC071 - GMRV075



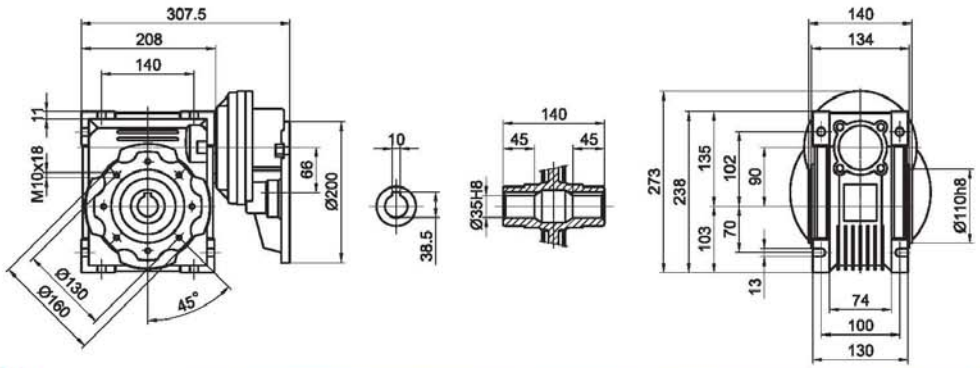
PC071 - GMRV090



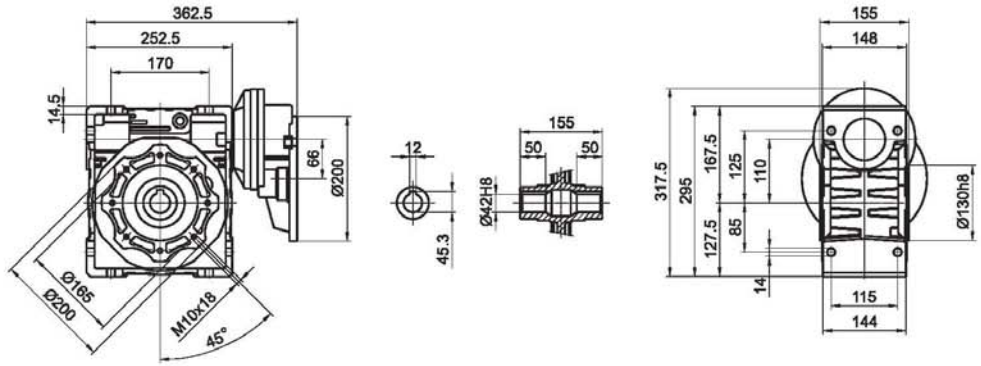
PC080 - GMRV075



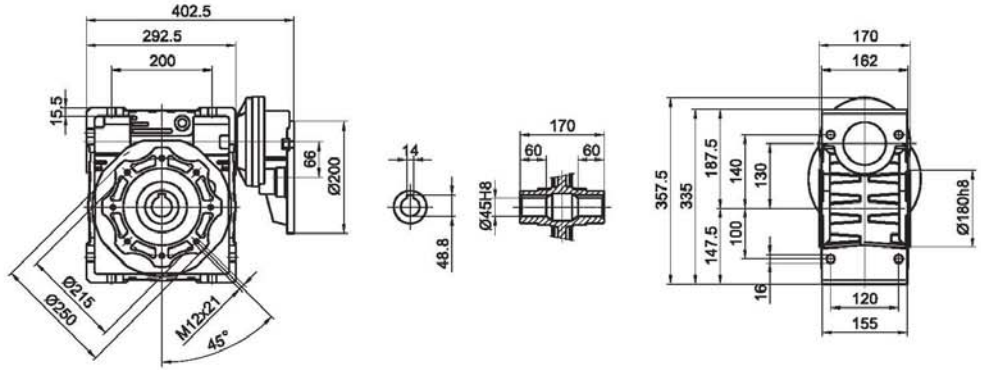
PC080 - GMRV090



PC080(090) - GMRV110



PC080(090) - GMRV130



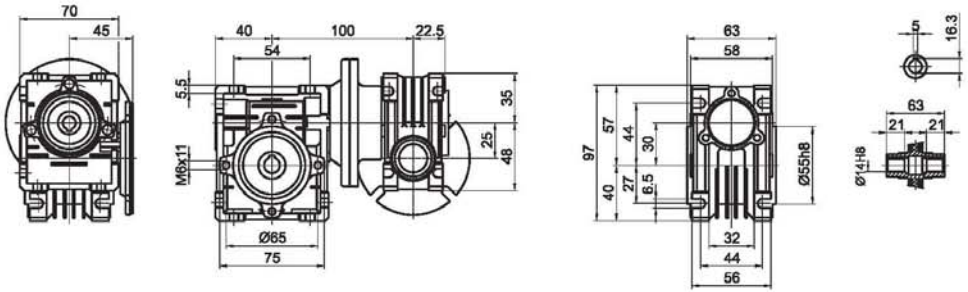
10.3 GMRV+GMRV **尺寸图**

- 关于输出法兰的尺寸，请参考GMRV有关图纸。
- 关于空心输出轴的尺寸，请参考GMRV的相关图纸。
- 关于双轴伸蜗杆的尺寸，请参考GMRV的相关图纸。

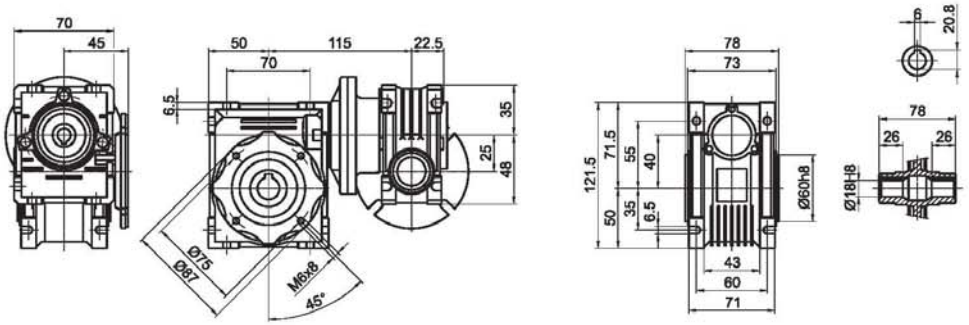
10.3 GMRV+GMRV ***Dimensions charts***

- For the dimensions of the output flanges, please consider the drawing of relevant GMRV size.
- For the dimensions of the hollow shafts in option, please consider the drawing of relevant GMRV size.
- For the dimensions of the double extention worm shafts, please consider the drawing o. f relevant GMRV size

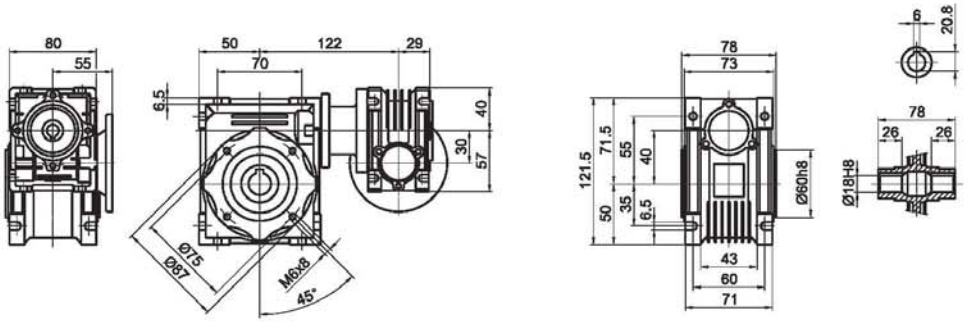
GMRV 025 - 030



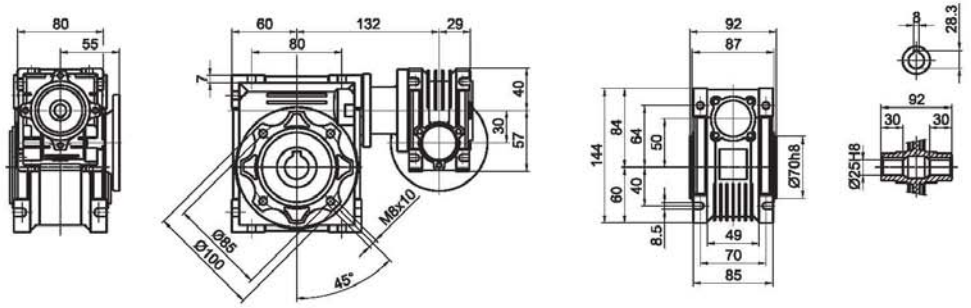
GMRV 025 - 040



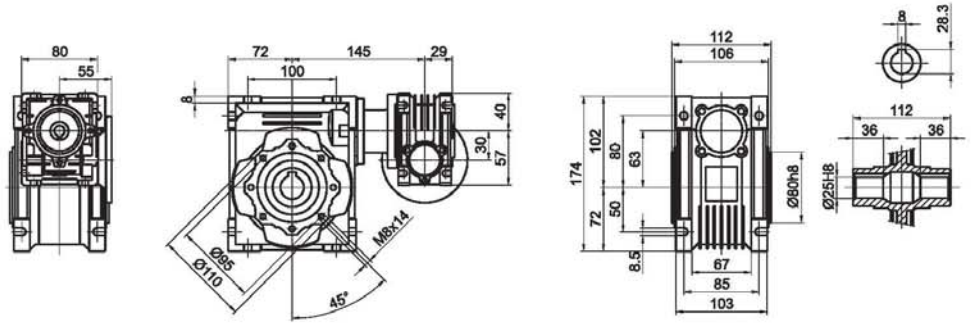
GMRV 030 - 040



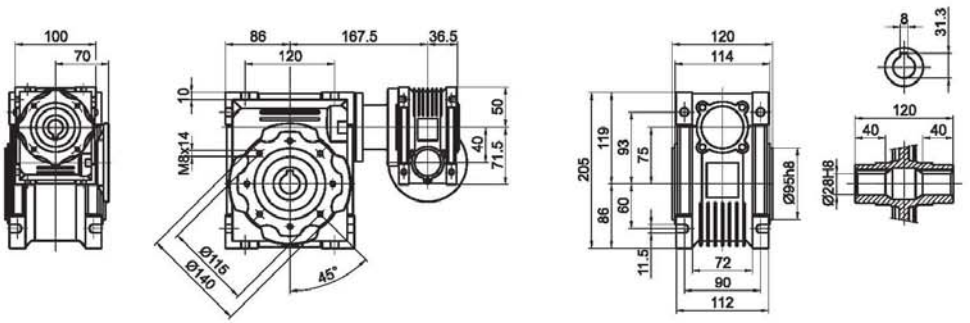
GMRV 030 - 050



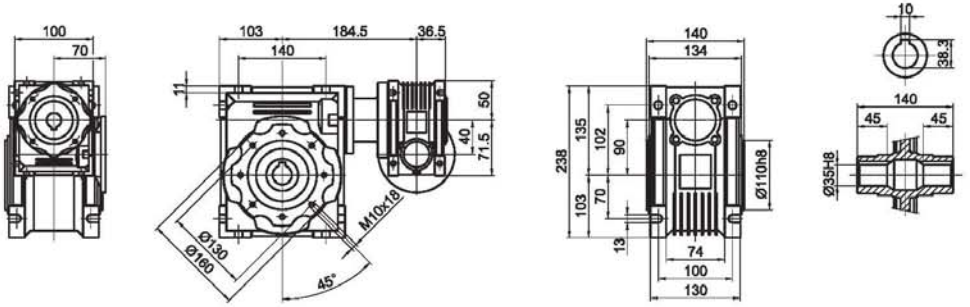
GMRV 030 - 063



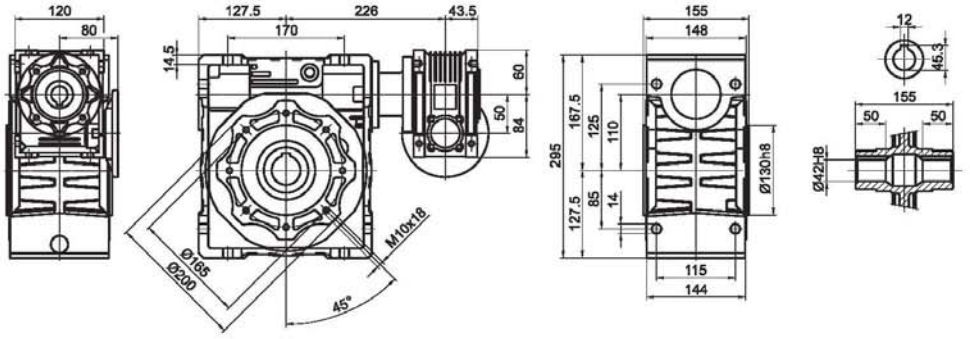
GMRV 040 - 075



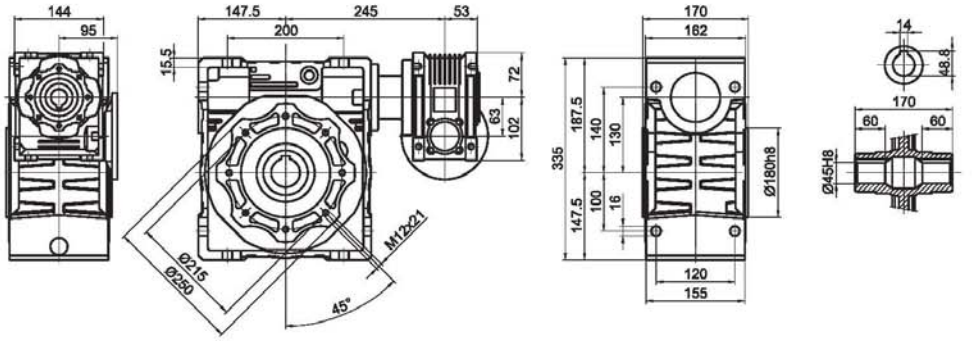
GMRV 040 - 090



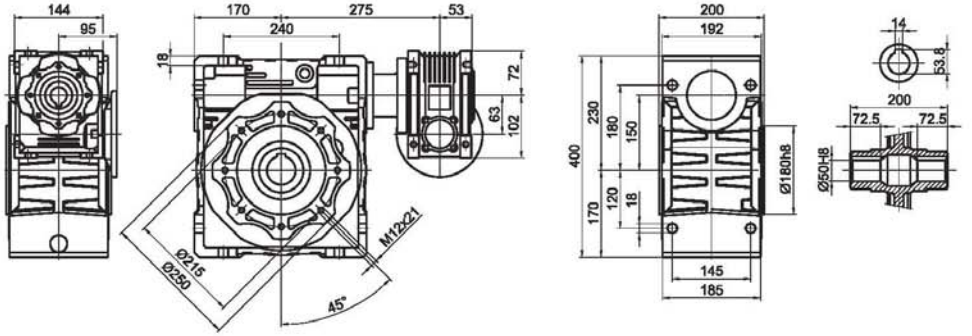
GMRV 050 - 110



GMRV 063 - 130

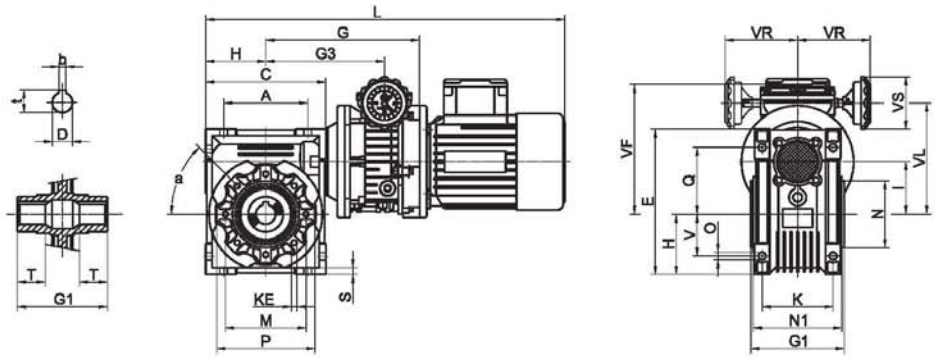


GMRV 063 - 150



10.4 *UDL(TXF)+*GMRV *尺寸图*

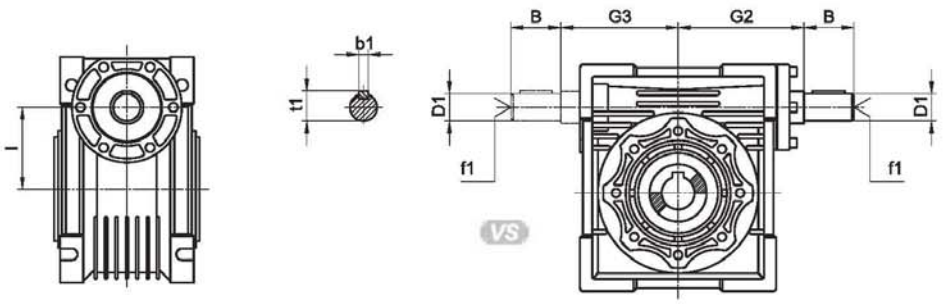
10.4 *UDL(TXF)+*GMRV *Dimensions charts*



	A	C	D_{H8}	b	t	E	G	G1	G3	H	I	L	M	N_{h8}	N1	O	P	Q	S	T	V	VF	VR	VS	VL	K	KE	a
UDL002- GMRV***040***							181.5		134			438.5										153	113	70	118			
UDL005- GMRV ***040***	70	100	18	6	20.8	121.5	178	76	141.5	50	40	453	75	60	73	6.5	87	55	6.5	26	35	165	113	70	131	60	M6x8 (n=4)	45°
TXF005- GMRV ***040***							177		127			452										152	115	70	123.5			
UDL002- GMRV***050***							191.5		144			458.5										163	113	70	128			
UDL005- GMRV***050***	80	120	25	8	28.3	144	188	92	151.5	60	50	473	85	70	87	8.5	100	64	7	30	40	175	113	70	141	70	M8x10 (n=4)	45°
TXF005- GMRV***050***							187		137			472										162	115	70	133.5			
UDL005- GMRV***063***							204		167.5			501										188	113	70	154			
TXF005- GMRV***063***	100	144	25	8	28.3	174	203	112	153	72	63	500	95	80	106	8.5	110	80	8	36	50	175	115	70	146.5	85	M8x14 (n=8)	45°
UDL010- GMRV***063***							239.5		183.5			566.5										205	120	85	170			
TXF010- GMRV***063***							227		164.5			554										197	126	85	166			
UDL010- GMRV***075***							256.5		200.5			587.5										217	120	85	182			
TXF010- GMRV***075***	120	172	28	8	31.3	205	244	120	181.5	88	75	585	115	95	114	11	140	93	10	40	60	209	126	85	178	90	M8x14 (n=8)	45°
UD020- GMRV***075***							287		219.5			668										223	140	85	202			
UDL010- GMRV***090***							273		217			631										232	120	85	197			
TXF010- GMRV***090***	140	206	35	10	38.3	238	260.5	140	198	103	90	618.5	130	110	134	13	160	102	11	45	70	224	126	85	193	110	M10x18 (n=8)	45°
UD020- GMRV***090***							304		236.5			702										238	140	85	217			
UDL010- GMRV***110***							303.5		247.5			686										252	120	85	217			
TXF010- GMRV***110***							291		228.5			673.5										244	120	85	213			
UD020- GMRV***110***	170	252.5	42	12	45.3	295	334	155	266.5	127.5	110	756.5	165	130	148	14	200	125	14	50	85	258	140	85	237	115	M10x18 (n=8)	45°
UD030- GMRV***110*** ***UD050-*** GMRV***110***							382		291			834.5 849.5										291	150	120	268			
UD020- GMRV***130***							354		286.5			796.5										278	140	85	257			
UD030- GMRV***130***	200	292.5	45	14	48.8	335	402	170	311	147.5	130	874.5	215	180	162	16	250	140	15	60	100	311	150	120	288	120	M12x21 (n=8)	45°
UD050- GMRV***130***							402		311			889.5										311	150	120	288			

10.5 GRV*尺寸图*

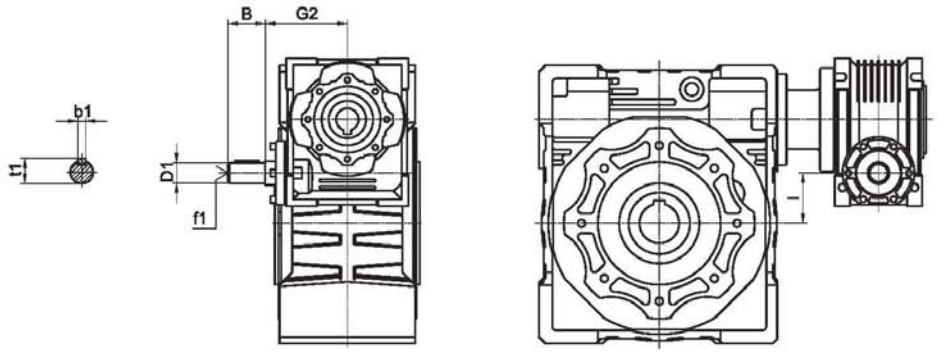
10.5 GRV *Dimensions charts*



GRV	025	030	040	050	063	075	090	110	130	150
B	20	20	23	30	40	50	50	60	80	80
D1	9 j6	9 j6	11 j6	14 j6	19 j6	24 j6	24 j6	28 j6	30 j6	35 j6
G2	38	51	60	74	90	105	125	142	162	195
G3	37	45	53	64	75	90	108	135	155	175
l	25	30	40	50	63	75	90	110	130	150
b1	3	3	4	5	6	8	8	8	8	10
f1	-	-	-	M6	M6	M8	M8	M10	M10	M12
t1	10.2	10.2	12.5	16	21.5	27	27	31	33	38

10.6 GRV+GMRV *尺寸图*

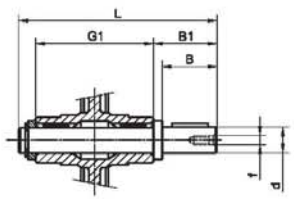
10.6 GRV+GMRV *Dimensions charts*



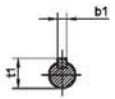
GRV+GMRV	030-040	030-050	030-063	040-075	040-090	050-110	063-130	063-150
B	20	20	20	23	23	30	40	40
D1	9 j6	9 j6	9 j6	11 j6	11 j6	14 j6	19 j6	19j6
G2	51	51	51	60	60	74	90	90
l	10	20	33	35	50	50	67	87
b1	3	3	3	4	4	5	6	6
f1	-	-	-	-	-	M6	M6	M6
t1	10.2	10.2	10.2	12.5	12.5	16	21.5	21.5

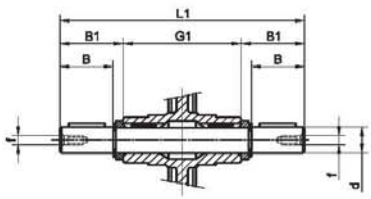
10.7 输出轴

10.7 *Output shaft*



AS





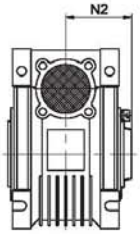
AB

	d	B	B1	G1	L	L1	f	b1	t1
025	11 g6 (9)	23 (25)	25.5 (30)	50	81 (85.5)	101	-	4 (3)	12.5 (10.2)
030	14 g6	30	32.5	63	102	128	M6	5	16
040	18 h6	40	43	78	128	164	M6	6	20.5
050	25 h6	50	53.5	92	153	199	M10	8	28
063	25 h6	50	53.5	112	173	219	M10	8	28
075	28 h6	60	63.5	120	192	247	M10	8	31
090	35 h6	80	84.5	140	234	309	M12	10	38
110	42 h6	80	84.5	155	249	324	M16	12	45
130	45 h6	80	85	170	265	340	M16	14	48.5
150	50 h6	82	87	200	297	374	M16	14	53.5

(..) 根据用户要求定制
(..) Only on request

10.8 防护罩

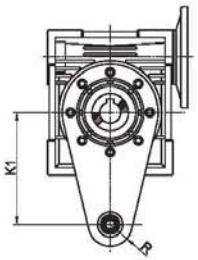
10.8 *Protective Cover*

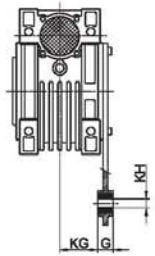


	N2
030	42
040	50
050	58
063	69
075	74
090	86
110	94
130	102
150	113

10.9 扭力臂

10.9 *Torque arm*



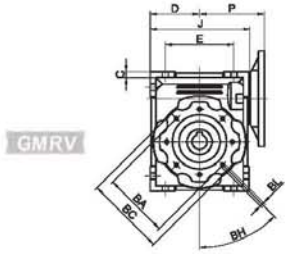


	K1	G	KG	KH	R
025	70	14	17.5	8	15
030	85	14	24	8	15
040	100	14	31.5	10	18
050	100	14	38.5	10	18
063	150	14	49	10	18
075	200	25	47.5	20	30
090	200	25	57.5	20	30
110	250	30	62	25	35
130	250	30	69	25	35
150	250	30	84	25	35

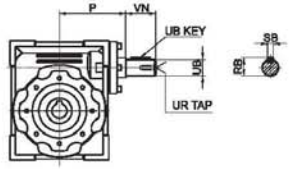
11.0 GMRV-英制系列
GMRV- NCH SERIES

11.1 尺寸

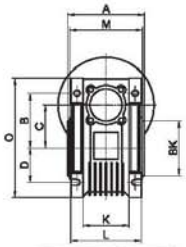
11.1 *Dimensions chart*



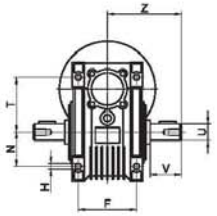
GMRV



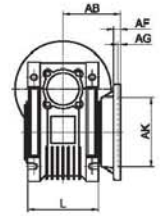
GRV



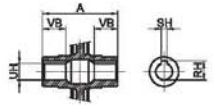
Shaft Mount



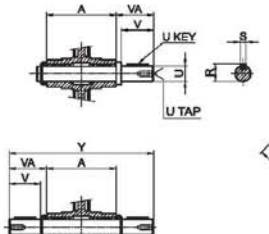
Foot Mount



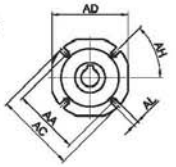
Flange Mount



Hollow Output Bore



Output Shaft



Output Flange

Hollow Output Bore	030	040	050	063	075	090	110	130	150
RH	0.71	0.84	1.12	1.24	1.37	1.52	1.8	1.93	2.22
SH	0.1875	0.1875	0.25	0.25	0.25	0.3125	0.375	0.375	0.500
UH	$0.625^{+0.001}_{0}$	$0.75^{+0.001}_{0}$	$1.0^{+0.001}_{0}$	$1.125^{+0.001}_{0}$	$1.25^{+0.001}_{0}$	$1.375^{+0.001}_{0}$	$1.625^{+0.001}_{0}$	$1.75^{+0.001}_{0}$	$2.0^{+0.001}_{0}$
VB	0.83	1.14	1.28	1.42	1.56	1.77	1.97	2.24	2.85

Output Shaft	030	040	050	063	075	090	110	130	150
R	0.7	0.83	1.11	1.23	1.36	1.51	1.79	1.92	2.22
S	0.1875	0.1875	0.25	0.25	0.25	0.3125	0.375	0.375	0.500
U	$0.625^{0}_{-0.0005}$	$0.75^{0}_{-0.0005}$	$1.0^{0}_{-0.0005}$	$1.125^{0}_{-0.0005}$	$1.25^{0}_{-0.0005}$	$1.375^{0}_{-0.0005}$	$1.625^{0}_{-0.0005}$	$1.75^{0}_{-0.0005}$	$2.0^{0}_{-0.005}$
U KEY	0.1875x1.125	0.1875x1.5	0.25x1.5	0.25x1.875	0.25x2.25	0.3125x2.5	0.375x2.75	0.375x2.75	0.50x3.50
U TAP	1/4-20	1/4-20	3/8-16	3/8-16	1/2-13	1/2-13	5/8-11	5/8-11	3/4-10
V	1.57	1.97	1.97	2.36	2.76	3.15	3.54	3.54	3.94
VA	1.67	2.09	2.11	2.5	2.89	3.33	3.72	3.74	4.13
Y	5.82	7.25	7.84	9.41	10.5	12.17	13.54	14.17	16.13

	030	040	050	063	075	090	110	130	150
A	2.48	3.07	3.62	4.41	4.72	5.51	6.1	6.69	7.87
B	2.24	2.81	3.31	4.02	4.69	5.31	6.59	7.38	9.06
BA	2.56	2.95	3.35	3.74	4.53	5.12	6.5	8.46	8.46
BC	2.95	3.43	3.94	4.33	5.51	6.3	7.87	9.84	9.84
BH	90°	45°	45°	45°	45°	45°	45°	45°	45°
BK	$2.165^{0}_{-0.0018}$	$2.362^{0}_{-0.0018}$	$2.756^{0}_{-0.0018}$	$3.15^{0}_{-0.0021}$	$3.74^{0}_{-0.0021}$	$4.331^{0}_{-0.0021}$	$5.118^{0}_{-0.0025}$	$7.087^{0}_{-0.0025}$	$7.087^{0}_{-0.0025}$
BL	M6x11	M6x10	M8x10	M8x14	M8x14	M10x18	M10x18	M12x21	M12x21
C	1.18	1.57	1.97	2.48	2.95	3.54	4.33	5.12	5.91
D	1.57	1.97	2.36	2.83	3.39	4.06	5.02	5.81	6.69
E	2.13	2.76	3.15	3.94	4.72	5.51	6.69	7.87	9.45
F	1.73	2.36	2.76	3.35	3.54	3.94	4.53	4.72	5.71
G	0.22	0.26	0.28	0.31	0.39	0.43	0.57	0.61	0.71
H	0.26	0.26	0.33	0.33	0.45	0.51	0.55	0.63	0.71
J	3.15	3.98	4.76	5.75	6.85	8.19	9.94	11.52	13.39
K	1.26	1.69	1.93	2.64	2.83	2.91	-	-	-
L	2.2	2.8	3.35	4.06	4.41	5.12	5.67	6.1	7.28
M	2.28	2.87	3.43	4.17	4.49	5.28	5.83	6.38	7.56
N	1.06	1.38	1.57	1.97	2.36	2.76	3.35	3.94	4.72
O	3.82	4.78	5.67	6.85	8.07	9.37	11.61	13.19	15.75
P	2.64	3.15	3.54	4.13	4.96	5.63	6.81	7.6	8.46
Q	0.83	2.36	2.91	3.54	4.13	4.92	5.59	6.38	7.68
T	1.73	2.17	2.52	3.15	3.66	4.02	4.92	5.51	7.09
Z	2.91	3.63	3.92	4.71	5.25	6.09	6.77	7.09	8.07

Output Flange

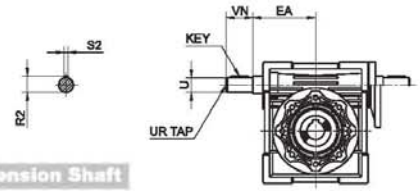
		AA	AB	AC	AD	AF	AG	AH	AK	AL
030	FA	2.68	2.15	3.15	2.76	0.24	0.16	45°	$1.969^{+0.0018}_{0}$	0.26
040	FA	2.95	2.64	4.33	3.74	0.28	0.16	45°	$2.362^{+0.0018}_{0}$	0.35
	FB	2.95	3.82	4.33	3.74	0.28	0.16	45°	$2.362^{+0.0018}_{0}$	0.35
	FC	4.53	3.15	5.51	-	0.35	0.2	45°	$3.740^{+0.0021}_{0}$	0.37
	FD	3.94	2.28	4.72	-	0.47	0.2	45°	$3.150^{+0.0018}_{0}$	0.35
050	FA	3.35	3.54	4.92	4.33	0.35	0.2	45°	$2.756^{+0.0018}_{0}$	0.43
	FB	3.35	4.72	4.92	4.33	0.35	0.2	45°	$2.756^{+0.0018}_{0}$	0.43
	FC	5.12	3.5	6.3	-	0.39	0.2	45°	$4.331^{+0.0021}_{0}$	0.37
	FD	4.53	2.83	5.51	-	0.57	0.2	45°	$3.543^{+0.0021}_{0}$	0.43
063	FA	4.13	3.23	7.09	5.59	0.39	0.24	45°	$4.528^{+0.0021}_{0}$	0.43
	FB	5.91	4.41	7.09	5.59	0.39	0.24	45°	$4.528^{+0.0021}_{0}$	0.43
	FC	6.5	3.86	7.87	-	0.39	0.2	45°	$5.118^{+0.0026}_{0}$	0.43
	FD	6.5	4.21	7.87	-	0.39	0.2	45°	$5.118^{+0.0026}_{0}$	0.43
	FE	5.12	3.17	6.3	-	0.65	0.2	45°	$4.331^{+0.0021}_{0}$	0.43
075	FA	6.5	4.37	7.87	6.69	0.51	0.24	45°	$5.118^{+0.0026}_{0}$	0.55
	FB	5.12	3.54	6.3	-	0.51	0.24	45°	$4.331^{+0.0021}_{0}$	0.55
090	FA	6.89	4.37	8.27	8.27	0.51	0.24	45°	$5.984^{+0.0026}_{0}$	0.55
	FB	8.46	4.8	9.84	-	0.71	0.24	45°	$7.087^{+0.0025}_{0}$	0.55
	FC	6.5	4.33	7.87	-	0.67	0.24	45°	$5.118^{+0.0026}_{0}$	0.43
	FD	6.89	5.94	8.27	-	0.51	0.24	45°	$5.984^{+0.0025}_{0}$	0.55
110	FA	9.06	5.16	11.02	10.24	0.59	0.24	45°	$6.693^{+0.0026}_{0}$	0.55
	FB	9.06	7.09	11.02	10.24	0.59	0.24	45°	$6.693^{+0.0025}_{0}$	0.55
130	FA	10.04	5.51	12.6	11.42	0.59	0.24	22.5°	$7.087^{+0.0026}_{0}$	0.63
150	FA	10.04	6.10	12.6	11.42	0.59	0.24	22.5°	$7.087^{+0.0026}_{0}$	0.63

Input Shaft

	030	040	050	063	075	090	110	130	150
SB	0.094	0.125	0.1875	0.1875	0.1875	0.1875	0.25	0.25	0.3175
RB	0.42	0.55	0.7	0.83	0.96	0.96	1.24	1.36	1.51
UB	$0.375^{0}_{-0.0005}$	$0.5^{0}_{-0.0005}$	$0.625^{0}_{-0.0005}$	$0.75^{0}_{-0.0005}$	$0.875^{0}_{-0.0005}$	$0.875^{0}_{-0.0005}$	$1.125^{0}_{-0.0005}$	$1.25^{0}_{-0.0005}$	$1.375^{0}_{0.0005}$
UB KEY	0.094x0.875	0.125x0.875	0.1875x1.125	0.1875x1.5	0.1875x1.875	0.1875x1.875	0.25x2.25	0.25x2.5	0.3175x2.875
UR TAP	-	1/4-20	1/4-20	1/4-20	1/4-20	1/4-20	3/8-16	1/2-13	1/2-13
VN	1.18	1.18	1.58	1.97	2.36	2.36	2.76	3.15	3.15

11.2 *VS 尺寸图*

11.2 *VS Dimensions charts*

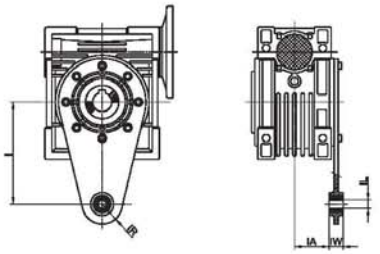


High Speed Extension Shaft

	EA	U	VN	UR	S2	R2	KEY	
							Length	Square
030	1.772	$0.375^{0}_{-0.0005}$	1.18	-	0.093	0.42	0.875	0.094
040	2.087	$0.5^{0}_{-0.0005}$	1.18	1/4-20	0.13	0.55	0.875	0.125
050	2.52	$0.625^{0}_{-0.0005}$	1.58	1/4-20	0.19	0.7	1.125	0.188
063	2.953	$0.75^{0}_{-0.0005}$	1.97	1/4-20	0.19	0.83	1.5	0.188
075	3.543	$0.875^{0}_{-0.0005}$	2.36	1/4-20	0.19	0.96	1.875	0.188
090	4.252	$0.875^{0}_{-0.0005}$	2.36	1/4-20	0.19	0.96	1.875	0.188
110	5.315	$1.125^{0}_{-0.0005}$	2.76	3/8-16	0.25	1.24	2.25	0.25
130	6.102	$1.25^{0}_{-0.0005}$	3.15	1/2-13	0.25	1.36	2.5	0.25
150	8.27	$1.375^{0}_{-0.0005}$	3.15	1/2-13	0.32	1.51	2.875	0.315

11.3 *扭力臂*

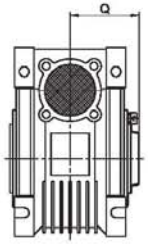
11.3 *Torque Arm*



	I	IA	IL	IR	IW
025	2.76	0.69	0.31	0.59	0.55
030	3.35	0.94	0.31	0.59	0.55
040	3.94	1.24	0.39	0.71	0.55
050	3.94	1.52	0.39	0.71	0.55
063	5.91	1.93	0.39	0.71	0.55
075	7.87	1.87	0.79	1.18	0.98
090	7.87	2.26	0.79	1.18	0.98
110	9.84	2.44	0.98	1.38	1.18
130	9.84	2.72	0.98	1.38	1.18
150	9.84	3.31	0.98	1.38	1.18

11.4 *防护罩*

11.4 *Protective Cover*



	Q
030	1.65
040	1.97
050	2.28
063	2.72
075	2.91
090	3.39
110	3.7
130	4.02
150	4.45

11.5 **NEMA** 法兰

11.5 **NEMA** *Flange Availability*

	NEMA Flange	Input Bore Diameter	Available Ratios											
			5	7.5	10	15	20	25	30	40	50	60	80	100
030	48C	0.5	•	•	•	•	•	•	•	•	•	•	•	
040	56C	0.625	•	•	•	•	•	•	•	•	•	•	•	•
050	56C	0.625	•	•	•	•	•	•	•	•	•	•	•	•
063	56C	0.625					•	•	•	•	•	•	•	•
	140TC	0.875		•	•	•	•	•	•	•				
075	56C	0.625									•	•	•	•
	140TC	0.875				•	•	•	•	•	•			
	180TC	1.125		•	•	•								
090	56C	0.625											•	•
	140TC	0.875						•	•	•	•	•		
	180TC	1.125		•	•	•	•	•	•	•				
110	140TC	0.875									•	•	•	•
	180TC	1.125					•	•	•	•	•	•		
	210TC	1.375		•	•	•	•							
130	140TC	0.875											•	•
	180TC	1.125							•	•	•	•	•	
	210TC	1.375		•	•	•	•	•	•	•				
150	180TC	1.125							•	•	•	•	•	•
	210TC	1.375				•	•	•	•	•				
	250TC	1.625		•	•	•	•							

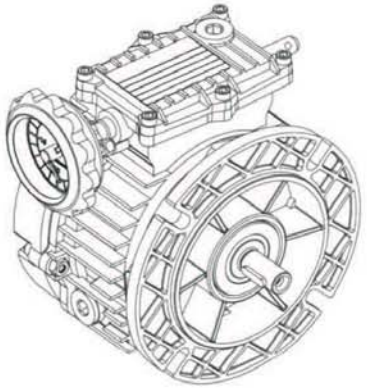
基本信息 GENERAL INFORMATION A

GMRV系列圆柱蜗杆减速器 GMRV SERIES CYLINDRICAL WORM GEAR UNITS B

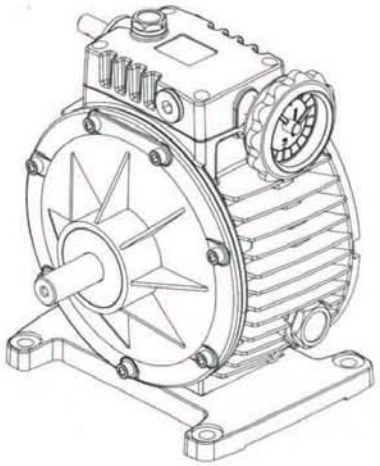
UDL/TXF 系列行星锥盘无级变速器 UDL/TXF SERIES PLANETARY CONE & DISK STEP-LESS SPEED VARIATOR C

UDL/TXF 系列行星锥盘无级变速器
UDL/TXF SERIES PLANETARY CONE & DISK STEP-LESS SPEED VARIATOR

UDL..B5



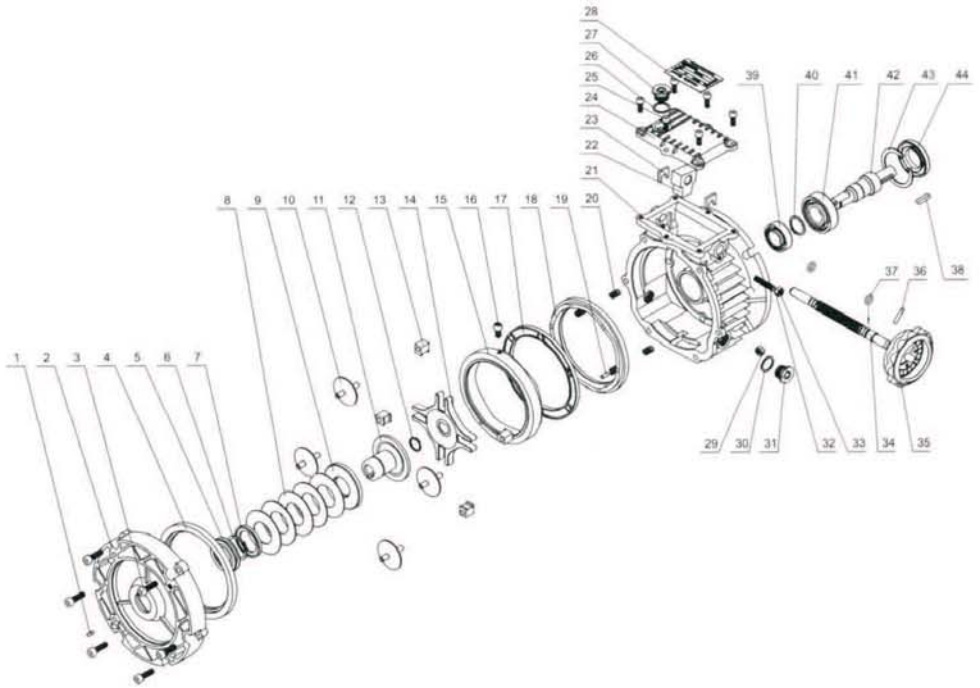
TXF



UDL..B3

1.0 结构分解图

1.0 EXPLODED VIEW



1	圆柱销 Straight pin	12	轴用弹性挡圈 Circlip for shaft	23	卡板 Locating piece	34	调节丝杠 Regulating screw rod
2	输入法兰 Input flange	13	行星盘摩擦轴承 Planet disc friction bearing	24	顶盖 Cap	35	手轮 Handwheel
3	内六角圆柱头螺钉 Hexagon socket head cap screw	14	行星轮架 Planet carrier	25	内六角圆柱头螺钉 Hexagon socket head cap screw	36	圆柱销 Straight pin
4	固定外轨 Fixed annulus race	15	调整轨 Adjustable annulus race	26	橡胶垫片 Rubber gasket	37	O形橡胶密封圈 O-ring
5	油封 Oli seal	16	球接头 Ball joint	27	油塞 Oil plug	38	平键 Parallel key
6	轴用弹性挡圈 Circlip for shaft	17	滚珠环 Ball ring	28	铭牌 Nameplate	39	轴承 Bearing
7	垫圈 Washer	18	凸轮圈 Cam ring	29	六角螺母 Hexagon nuts	40	孔用弹性挡圈 Circlip for hole
8	碟形弹簧 Belleville spring	19	圆柱销 Straight pin	30	橡胶垫片 Rubber insert	41	轴承 Bearing
9	活动太阳轮 Adjustable sun race	20	弹簧 Spring	31	油镜 Oil level indicator	42	输出轴 Low speed shaft
10	行星盘 Planet disc	21	箱体 Case	32	螺栓 Bolt	43	孔用弹性挡圈 Circlip for hole
11	固定太阳轮 Fixed sun race	22	操作块 Regulating block	33	六角螺母 Hexagon nuts	44	油封 Oli seal

2.0 产品名称

2.0 DESIGNATION

2.1 UDL系列无级变速器

2.1 *UDL Series stepless speed variator*

2.2 TXF 系列无级变速器

2.2 *TXF Series stepless speed variator*

3.0 无级变速器选型表

3.0 STEPLESS SPEED VARIATOR SELECTION CHARTS

3.1 UDL 性能参数

3.1 *UDL Performance*

n_1=1400

P_1 (kW)	i	机座号 TYPE	n_2 min^{-1} max	n_2 min^{-1} min	M_2 Nm min	M_2 Nm max	
0.18	1.6-8.2	***UDL002***	880	170	1.5	3	632-4
0.25	1.4-7	***UDL005***	1000	200	2	6	711-4
0.37	1.4-7	***UDL005***	1000	200	3	6	712-4
0.55	1.4-7	***UDL010***	1000	200	4.4	12	801-4
0.75	1.4-7	***UDL010***	1000	200	6	12	802-4
1.1	1.4-8.2	***UD020***	1000	170	9	18	90S-4
1.5	1.4-8.2	***UD020***	1000	170	12	24	90L-4
2.2	1.4-7	***UD030***	1000	200	18	36	100L1-4
3.0	1.4-7	***UD030/050***	1000	200	24	48	100L2-4
4.0	1.4-7	***UD050***	1000	200	32	64	112M-4
5.5	1.4-7	***UD100***	1000	200	45	90	132S-4
7.5	1.4-7	***UD100***	1000	200	59	118	132M-4

3.2 TXF 性能参数

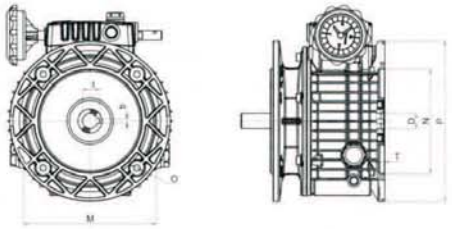
3.2 *TXF Performance*

n_1=1400

P_1 (kW)	i	机座号 TYPE	n_2 min^{-1} max	n_2 min^{-1} min	M_2 Nm min	M_2 Nm max	
0.25	1.4-8.2	***TXF005***	1000	170	2	6	711-4
0.37	1.4-8.2	***TXF005***	1000	170	3	6	712-4
0.55	1.4-8.2	***TXF010***	1000	170	4.4	12	801-4
0.75	1.4-8.2	***TXF010***	1000	170	6	12	802-4

4.0 输入电机接口

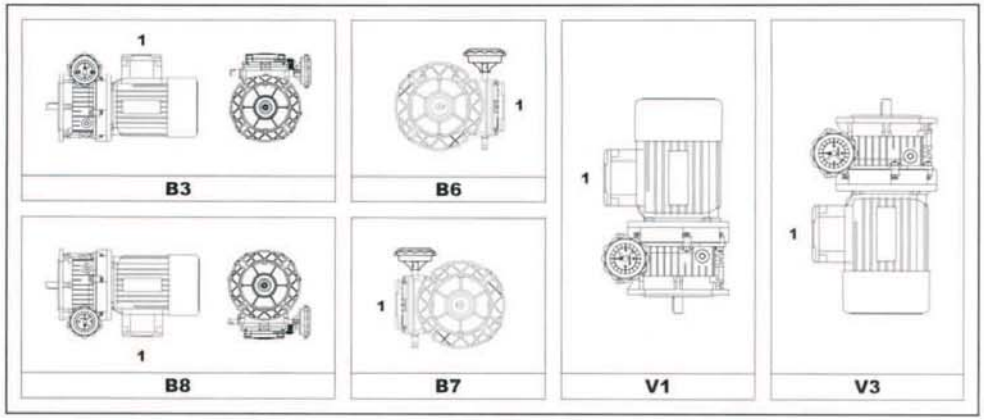
4.0 IEC Motor interface



	PAM / IEC	P	N_{H7}	M	O	D_{E7}	b	t	T
UDL002	63B5	140	95	115	M8	11	4	12.8	4
UDL005/TXF005	71B5	160	110	130	M8	14	5	16.3	5
UDL010/TXF010	80B5	200	130	165	M10	19	6	21.8	6
UD020	90B5	200	130	165	M10	24	8	27.3	6
UD030/050	100B5/112B5	250	180	215	M12	28	8	31.3	6
UD100	132B5	300	230	265	M12	38	10	41.3	6

5.0 安装方式

5.0 MOUNTING POSITIONS

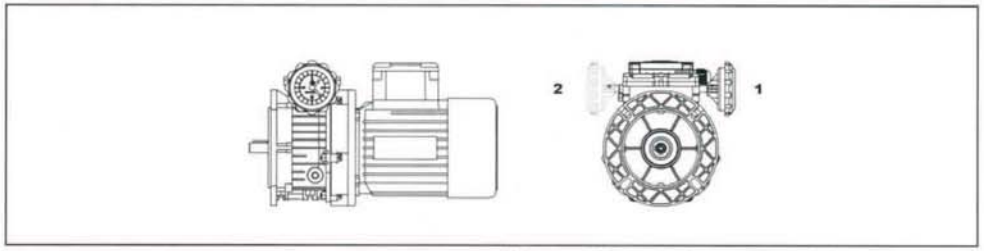


6.0 位置图

6.1 手轮位置

6.0 POSITIONS DIAGRAM

6.1 *Hand-wheel position*

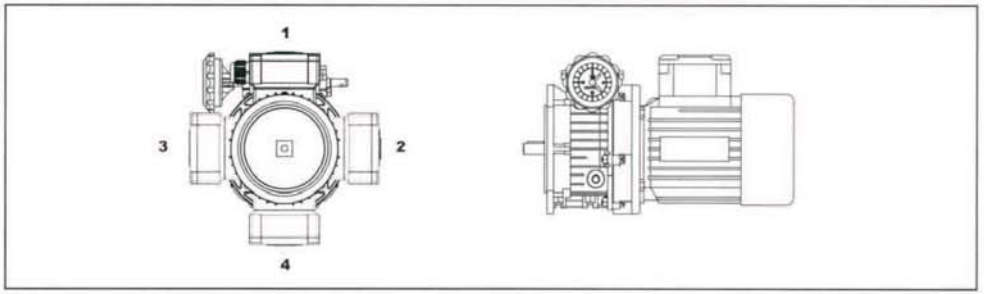


如没有特别说明, 手轮将按照如图1位和B3安装方位的组合样式供货。

Unless specified otherwise,the variator is supplied with the hand-whell in pos. 1 referred to position B3.

6.2 电机接线盒方位

6.2 *POS. of terminal box*



如对电机接线盒位置有特别要求，在下单时按图示注明方位。

In the case of specific requirements,when ordering,specify the position of the terminal box as show in the diagram.

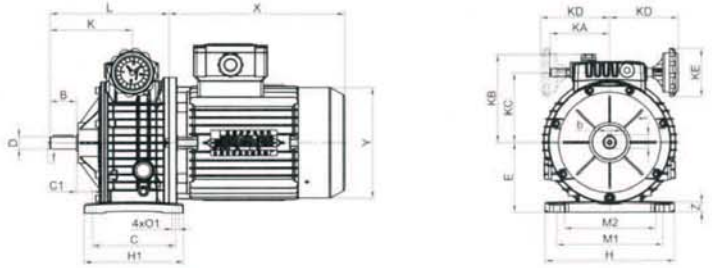
7.0 无级变速器尺寸图

7.1 *UDL 系列尺寸图*

7.0 SPEED VARIATOR DIMENSIONS CHARTS

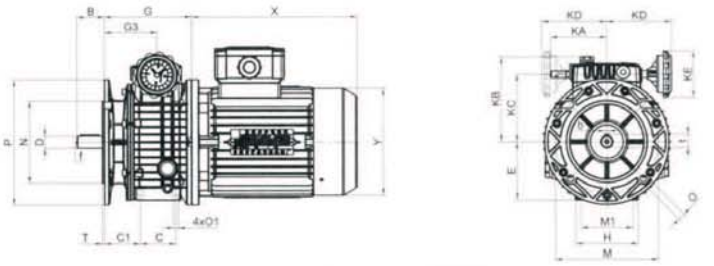
7.1 *UDL Series dimensions charts*

UDL - B3



TYPE	B	D/6	C	C1	E	H	H1	K	L	M1	M2	O1	KA	KB	KC	KD	KD1	KE	b	t	f	X	Y	Z
UDL002B3-0.18	23	11	105	17.5	80	145	120	87	134.5	110	71	9	71	113	78	113	113	70	4	12.5	M5	207	130	10
UDL005B3-0.25 UDL005B3-0.37	30	14	104	19.5	93	149	125	102	138.5	120	96	9	71	125	91	113	113	70	5	16	M5	225	145	10
UDL010B3-0.55 UDL010B3-0.75	40	19	120	35	113	190	150	127.5	183.5	160	135	11	79	142	107	120	120	85	6	21.5	M6	255	175	15
UD020B3-1.1 UD020B3-1.5	50	24	140	49	125	230	170	154	221.5	180	130	13	-	148	127	140	-	85	8	27	M8	270 295	195 195	18
UD030B3-2.2 UD030/050B3-3.0 UD050B3-4.0	60	28	230	25	150	300	270	191	282	245	190	14	-	181	158	150	-	120	8	31	M8	325 340	215 240	25
UD100B3-5.5 UD100B3-7.5	80	38	250	32	200	365	290	200	333	315	225	18	-	218	193	182	-	120	10	41	M10	390 430	275 275	30

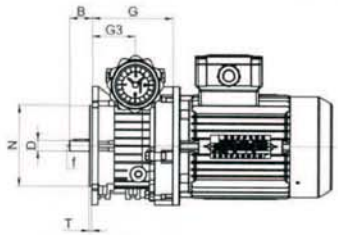
UDL - B5

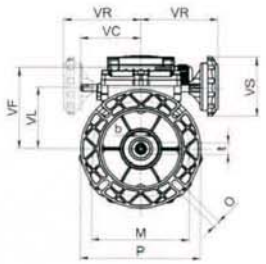


TYPE	B	D/6	C	G	G3	E	H	M	M1	N	O	O1	P	T	C1	KA	KB	KC	KD	KD1	KE	b	t	f	X	Y
UDL002B5-0.18	23	11	50	111.5	84	70	72	115	60	95	9	M6	140	3.5	46	75	113	78	113	113	70	4	12.5	M5	207	130
UDL005B5-0.25 UDL005B5-0.37	30	14	40	108	71.5	80	90	130	77	110	9	M8	160	3.5	51.5	75	125	91	113	113	70	5	16	M5	225	145
UDL010B5-0.55 UDL010B5-0.75	40	19	58	143.5	87.5	100	98	165	84	130	11	M8	200	3.5	62	82.5	142	107	120	120	85	6	21.5	M6	255	175
UD020B5-1.1 UD020B5-1.5	50	24	-	174	106.5	111	230	165	-	130	11	-	200	3.5	-	108.5	148	127	140	-	85	8	27	M8	270 295	195 195
UD030B5-2.2 UD030/050B5-3.0 UD050B5-4.0	60	28	-	222	131	136	265	215	-	180	15	-	250	4	-	131	181	158	150	-	120	8	31	M8	325 340	215 240
UD100B5-5.5 UD100B5-7.5	80	38	-	263	130	185	-	265	-	230	19	-	300	4	-	163	218	193	182	-	120	10	41	M10	390 430	275 275

7.2 TXF 系列尺寸图

7.2 TXF Series dimensions charts





TYPE	B	Dk6	G	G3	M	Nh8	O	P	T	VC	VF	VL	VR	VS	b	f	t
TXF005	30(40)	14(19)	107	57	130	110	9	160	3.5	79.5	104.5	82	116.5	71	5(6)	M8	16(21.5)
TXF010	40(50)	19(24)	131	68.5	165	130	11	200	3.5	89.5	127	103	126.5	85	6(8)	M6(M8)	21.5(27)

(..) 根据用户要求定制
(..) Only on request