

# MB、MBN SERIES

planetary cone-disk variator

MB、MBN 系列行星锥盘无极变速机



## MB、MBN系列行星锥盘无级变速机

### MB、MBN series planetary cone-disk variator

#### 概述

行星锥盘无级变速机系采用了国内外先进的技术而设计的。它不仅可广泛地用于食品、制药、塑料、造纸、陶瓷、烟草、印刷等轻工业部门，而且广泛用于机床、石化、冶金等重工部门及交通运输业。它的优点是：

- 1、高强度：在加冲击负载逆转时，本机性能可靠、能精确的传动，无后座力，并有足够的强度。
- 2、变速范围大：变速范围为5，即输出速比可在1:1.45至1:7.25之间任意变化。
- 3、调速精度高：调速精度为0.5~1转。
- 4、性能稳定：本机的传动部件都经过特殊热处理、并经精密加工。接触和润滑良好、运行平稳、噪音低、寿命长。
- 5、结构紧凑，体积小，重量轻。
- 6、组合能力强：本机能与各种减速机组合，实现低速无级变速，因此它具良好的适应性。

#### Overview

Planetary cone-disk variator is designed with the advanced know-how of both at home and abroad and can be used for both light-industrial trades, such as food, pharmaceutical, plastic, paper-making, ceramic, tobacco, printing etc., and heavy-industrial trades, such as tool machine, petrochemistry, metallurgy, metallurgy etc., as well as for the trades of communication and transportation. It features as below:

- 1、High strength: when reversedly running with an impact load, it is of a reliable performance, able to precisely drive, without a recoil and with a sufficient strength,
- 2、Large range of speed variation: its range of speed variation is 5, i.e. its output speed ratio can be varied between 1:1.45 to 1:25.
- 3、High precision of speed regulation: the precision of speed regulation is 0.5–1 turn.
- 4、Stable performance: its driving parts are meticulously processed with specially heat treatment, resulting in good contact and lubrication, stable running, low noise and long durability.
- 5、Compact structure, small volume and light weight.
- 6、Strong capability to be combined: it is of a good capability to be combined with various reducers to realize low-speed stepless variation.

#### 结构与工作原理、润滑油品种

##### 1、行星锥盘无级变速机（见图）

带锥度的太阳轮（12）和压盘（13）被一组蝶形弹簧（14）压紧，输入轴（15）与太阳轮用键联接，组成压紧的输入装置。一组带锥度的行星轮（10）内侧夹在压紧的太阳轮和压盘之间，外侧夹在带锥度的定环（11）和调速凸轮（9）之间，当输入装置转动时，由于定环和调速凸轮固定不动，行星轮就沿定环作纯滚动，且绕输入轴作公转，通过行星轮轴及滑动轴承（5）而带动行星架（2）及输出轴（1）转动。调速时转动手轮，由于手轮带动调速螺杆，使平面凸轮相对转动，产生轴向移动，从而均匀改变调速凸轮和固定环之间的间隔，最后改变了行星轮与太阳轮、压盘及固定环、调速凸轮摩擦处的工作半径，实现无级调速。

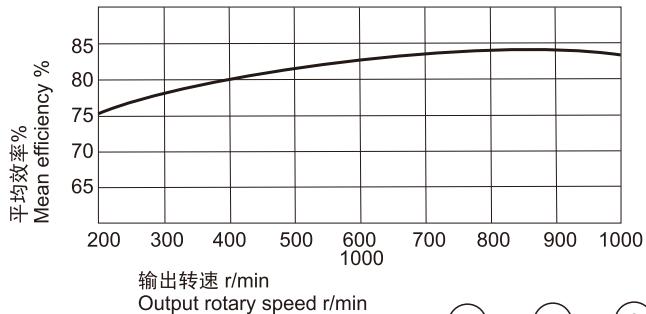
#### Structure and working principle

##### 1、Planetary cone-disk variator (see the drawing)

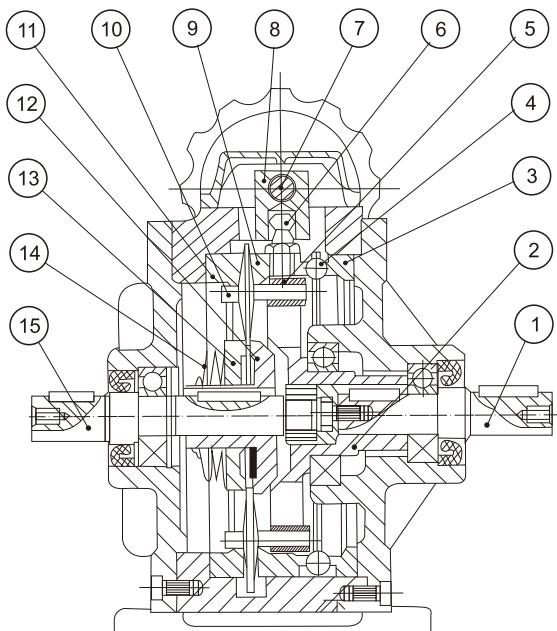
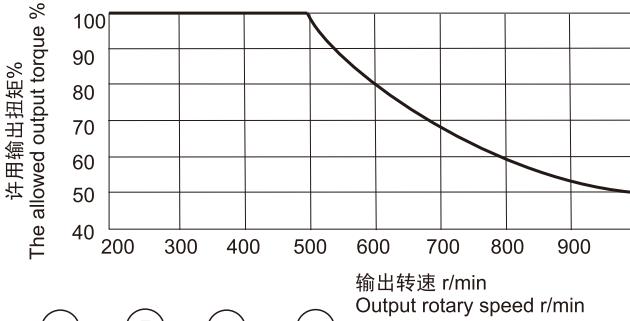
Both solar-wheel with a conicity (12) and press-plate (13) are jammed by a group of butterfly springs (14) and the input shaft(15) is linked with the solar-wheel by a key to form a jammed input device. A group of planetary wheels with a conicity (10), with their inner side clamped in between the jammed solar-wheel and the press-plate and outer side between the fixed ring with a conicity (11) and the speed-regulating cam (9), when the input device turns, roll purely along with the fixed ring due to both fixed ring and speed regulating cam fixed without motion and make revolution round the input shaft to drive both planetary rack(2) and output shaft(1) to run via the planetary-wheel shaft and the slide-block bearing(5). To regulate the speed, turn the handwheel, which drives the speed regulating screw to have the surface cam relatively run to produce axial displacement, and thus to evenly change the space between the speed regulating cam and the fixed ring and, finally, change the working radius at the frictional place of the cam between the planetary-wheel and the solar-wheel and between the press-rack and the fixed ring to realize the stepless speed variation.

### 性能曲线 Performance curve:

标准型平均效率与输出转速的关系  
Relation between the standard-type's mean efficiency and the output rotary speed



标准型允许输出扭矩与输出转速的关系  
Relation between the allowed output torque of standard-type and the output rotary speed

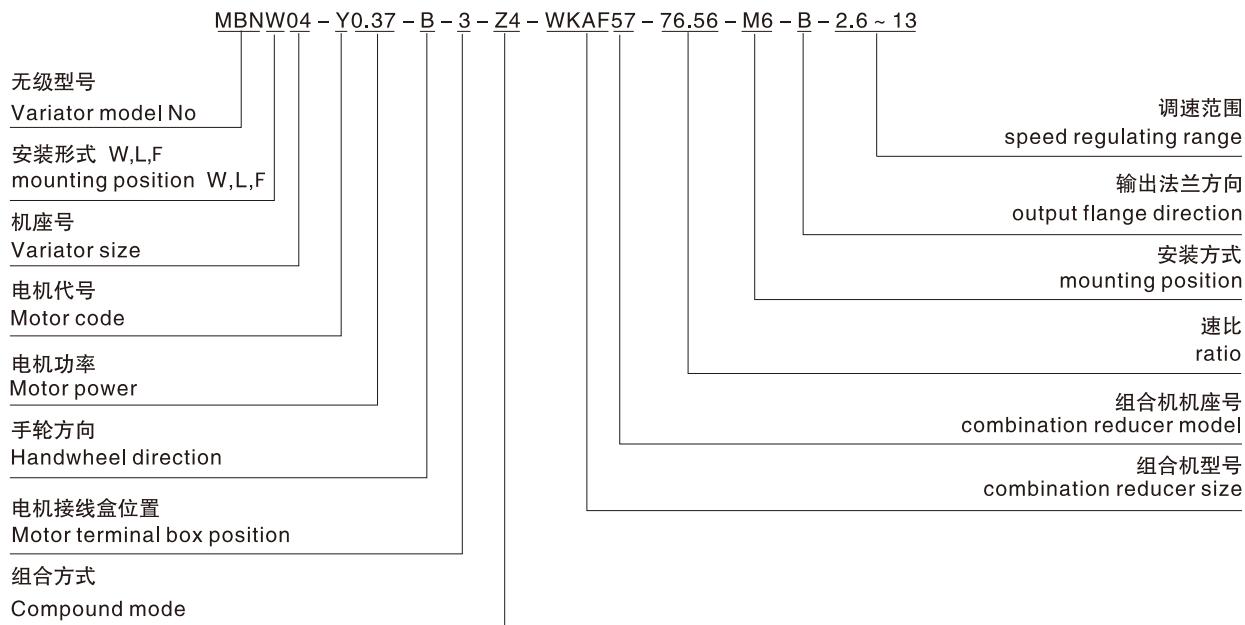


1、输出轴 1.output shaft	2、行星架 2.planetary rack	3、固定平面凸轮 3.fixed surfacecam	4、平面轴承 4.surfacebearing
5、滑块轴承 5.slide-block bearing	6、调速柄 6.speed-regulting hands	7、调速螺杆 7.speed-regulating screw	8、调速滑块 8.speed-regulatin
9、调速凸轮 9.speed-regulating cam	10、行星轮 10.planetary wheel	11、定环 11.fixed ring	12、太阳轮 12.solar-wheel
13、压轮 13.press-wheel	14、蝶形弹簧 14.butterfly spring	15、输入轴 15.input shaft	

### 2.润滑油品 Lubricating oil

	润滑油 Lubricant	Olio sintetice synthetic oil
	环境温度 Ambient Temperature	-25°C ~ +40°C
ISO		VG32 VG46
国内使用 Used in interior		Ub-1 Ub-3
国外使用 User in foreign Countries	AGIP SHELL ESSO MOBIL CASTROL BP	TRANSMISSION V.E A.T.F.DEXRON FLUID A.T.F.DEXRON A.T.F.DEXRON A.T.F.220 TQ.DEXRON I I AUTRAN DX

标记方式： Model sign:



注: ①基本形调速范围为200 ~ 1000r/min, 所配电机为四级。

②客户自配电机时, 不标注电机代号和功率及调速范围。

③轴输入时, 在标记后加RZ, 比如: MBN04RZ, MBNF04RZ。

Remark:

- ① When the speed regulating range is 200~1000r/min of basic model, the connecting motor should be 4 pole
- ② When the motor is provided and connected by customer, it is unnecessary to state the motor code, power and speed regulating range.
- ③ When it is shaft input, add RZ after the model description. For example: MBN04RZ, MBNF04RZ

1、标记示例: (基本型) Example

MBNW07-Y0.75-A-1-200 ~ 1000

MBNW07无级变速机, 卧式安装, 配0.75KW电机, 调速手轮A向, 电机接线盒位置1, 调速范围200 ~ 1000r/min

MBNW07 variator, horizontal mounting positions, connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1, speed regulating range 200~1000r/min

2、标记示例: (基本型) Example

MBNF07-Y0.75-A-1-200 ~ 1000

MBNF07无级变速机, 法兰式输出, 配0.75KW电机, 调速手轮A向, 电机接线盒位置1, 调速范围200 ~ 1000r/min

MBNF07 variator, flange output, connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1, speed regulating range 200~1000r/min

3、标记示例: (基本型, 客户自配电机) Example (motor provided and connected by customer)

MBNW07-A-1

MBNW07无级变速机, 卧式安装, 客户自配电机, 调速手轮A向, 电机接线盒位置1

MBNW07 variator, horizontal mounting positions, motor provided and connected by customer, speed regulating handwheel side A

4、标记示例: (基本型, 法兰式输出, 轴输入) Example (flange output, shaft input)

MBNF07RZ-A-1

MBNF07无级变速机, 法兰式输出, 轴输入, 调速手轮A向, 电机接线盒位置1

MBNF07 variator, flange output, shaft input, speed regulating handwheel side A

5、标记示例：(基本型，配6级电机) Example ( connect with 6 pole motor)

MBNW07-Y0.55-6P-A-1-130 ~ 650

MBNW07无级变速机，卧式安装，配0.55KW6级电机，调速手轮A向，电机接线盒位置1，调速范围130 ~ 650r/min  
 MBNW07 variator , horizontal mounting positions, connect with 0.55KW, 6 pole motor , speed regulating handwheel side A, motor terminalbox position 1, speed regulating range 130~650r/min

6、标记示例：(无级与单级齿轮组合) Example (combination of variator and single-stage gear)

MBNW07-Y0.75-A-1-Z1-C-5-M1-40 ~ 200

MBNW07无级变速机，卧式安装，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，  
 配单级齿轮，速比5，安装方式M1，调速范围40 ~ 200r/min

MBNW07 variator, connect with 0.75KW motor , speed regulating handwheel side A, motor terminal box position 1, compound mode Z1, with single-stage gear, ratio 5, mounting position M1, speed regulating range 40~200r/min

7、标记示例：(无级与两级齿轮组合) Example ( combination of variator and double-stage gear)

MBNW07-Y0.75-A-1-Z1-2C-11-M1-18 ~ 90

MBNW07无级变速机，卧式安装，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，配两级齿轮，速比11，  
 安装方式M1，调速范围18 ~ 90r/min

MBNW07 variator, horizontal mounting positions,connect with 0.75KW motor , speed regulating handwheel side A, motor terminal box position 1,compound mode Z1, with double-stage gear, ratio 11, mounting position M1, speed regulating range 18~90r/min

8、标记示例：(无级与摆线组合) Example ( combination of variator and cycloid reducer)

MBNF07-Y0.75-A-1-Z1-X3-17-M1-12 ~ 58

MBNF07无级变速机，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，配X3摆线减速机，  
 速比17，安装方式M1，调速范围12 ~ 58r/min

MBNF07 variator, connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1, compound mode Z1, connect with X3 cycloid reducer , ratio 17, mounting position M1, speed regulating range 12~58r/min

9、标记示例：(无级与RV系列组合) Example ( combination of variator and RV series reducer)

MBNF07-Y0.75-A-1-Z1-RV63-10-M1-19.3 ~ 96.5

MBNF07无级变速机，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，配RV63蜗轮减速机，  
 速比10，安装方式M1，调速范围19.3 ~ 96.5r/min

MBNF07 variator , connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1,compound mode Z1, connect with RV63 worm reducer, ratio 10, mounting position M1, speed regulating range 19.3~96.5r/min

10、标记示例：(无级与WR系列组合) Example ( combination of variator and WR series reducer)

MBNF07-Y0.75-A-1-Z1-WR57-35.07-M1-5.7 ~ 28.5

MBNF07无级变速机，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，  
 配WR57斜齿轮减速机，速比35.07，安装方式M1，调速范围5.7 ~ 28.5r/min

MBNF07 variator, connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1,compound mode Z1, connect with WR57 helical gear reducer, ratio 35.07, mounting position M1, speed regulating range 5.7~28.5r/min

11、标记示例：(无级与WK系列组合) Example (combination of variator and WK series reducer )

MBNF07-Y0.75-A-1-Z1-WK57-30.28-M1-6.6 ~ 33

MBNF07无级变速机，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，  
 配WK57斜齿-螺旋锥齿轮减速机，速比30.28，安装方式M1，调速范围6.6 ~ 33r/min

MBNF07 variator , connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1,compound mode Z1, connect with WK57 helical gear-bevel gear reducer, ratio 30.28, mounting position M1, speed regulating range 6.6~33r/min

## 12、标记示例：(无级与WF系列组合) Example: (Combination of variator and WF series reducer)

MBNF07-Y0.75-A-1-Z1-WF57-44.73-M1-4.5 ~ 22.4

MBNF07无级变速机，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，配WF57平行轴斜齿轮减速机，速比44.73，安装方式M1，调速范围4.5 ~ 22.4r/min

MBNF07 variator, connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1, compound mode Z1, connect with WF 57 parallel shaft helical gear reducer, ratio 44.73, mounting position M1, speed regulating range 4.5 ~ 22.4 r/min.

## 13、标记示例：(无级与WS系列组合) Example: (Combination of variator and WS series reducer)

MBNF07-Y0.75-A-1-Z1-WS57-23.2-M1-8.6 ~ 43

MBNF07无级变速机，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，配WS57斜齿-蜗轮减速机，速比23.2，安装方式M1，调速范围8.6 ~ 43r/min

MBNF07 variator, connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1, compound mode Z1, connect with WS 57 helical-worm reducer, ratio 23.2, mounting position M1, speed regulating range 8.6 ~ 43 r/min.

## 14、标记示例：(无级与WSAF系列组合) Example: (Combination of variator and WSAF series reducer)

MBNF07-Y0.75-A-1-Z1-WSAF57-23.2-M2-B-Φ35-8.6 ~ 43

MBNF07无级变速机，配0.75KW电机，调速手轮A向，电机接线盒位置1，组合方式Z1，配WSAF57斜齿-蜗轮减速机，速比23.2，安装方式M2，输出法兰B向，输出轴孔径Φ35，调速范围8.6 ~ 43r/min

MBNF07 variator, connect with 0.75KW motor, speed regulating handwheel side A, motor terminal box position 1, compound mode Z1, connect with WSAF 57 helical-worm gear reducer, ratio 23.2, mounting position M2, output flange on side B, output shaft bore Φ35, speed regulating range 8.6 ~ 43 r/min.

## 说明：

- ①无级变速机不得在输入电机转速小于700r/min时使用。
- ②无级变速机只能在运转的情况下调速，不允许停机调速。
- ③无级变速机可配多类型的电机，但建议客户不要配变频电机和制动电机。
- ④无级变速机与其它减速机组合时，按无极变速机确定调速手轮方向和电机接线盒位置。
- ⑤无级变速机与其它减速机组合时，按无极变速机与组合机的相对位置确定组合方式。
- ⑥无级变速机与其它减速机组合时，按组合机确定安装方式。

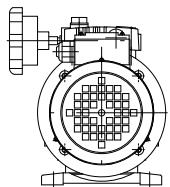
## Remarks:

- ① It is prohibited to operate the variator when the input speed of motor is less than 700 r/min.
- ② It only can regulate speed when the variator is in operation. It is prohibited to regulate speed when the variator is poweroff.
- ③ Variator can connect with various types of motors, but it is recommended not to connect with variable frequency motor and brake motor.
- ④ When variator combines with other type reducers, it is according to variator to confirm the speed regulating handwheel direction and position of motor terminal box.
- ⑤ When variator combines with other type reducers, it is according to the relative position between variator and combination reducer to confirm the compound mode.
- ⑥ When variator combines with other type reducers, it is according to the combination reducer to confirm the mounting position.

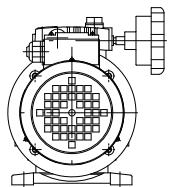
调速手轮方向

Speed regulating handwheel direction

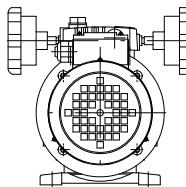
A



B



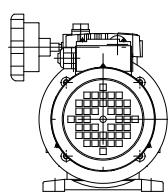
AB



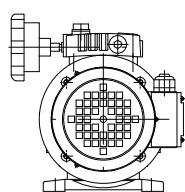
电机接线盒位置

Motor terminal box position

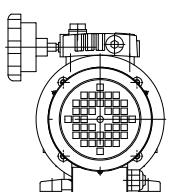
1



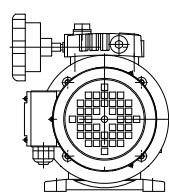
2



3



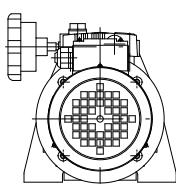
4



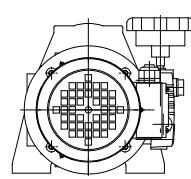
Mb无级与单级齿轮组合方式

Compound mode of MB variator and single-stage gear

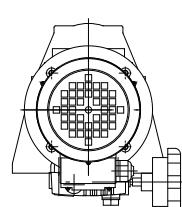
Z1



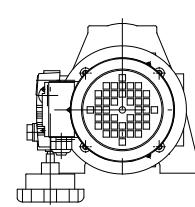
Z2



Z3



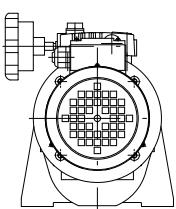
Z4



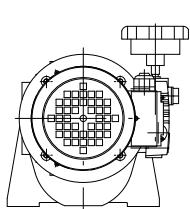
Mb无级与两级齿轮组合方式

Compound mode of MB variator and double-stage gear

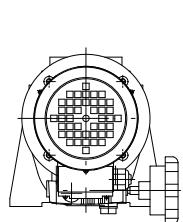
Z1



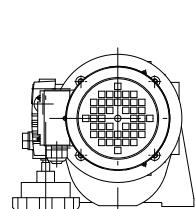
Z2



Z3



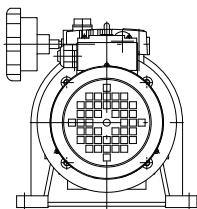
Z4



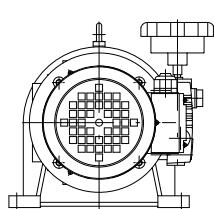
Mb无级与摆线组合方式

Compound mode of MB variator and cycloid reducer

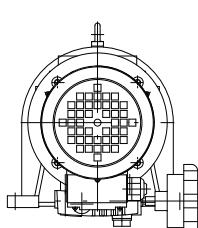
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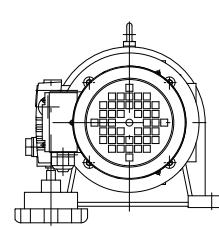
Z2



Z3

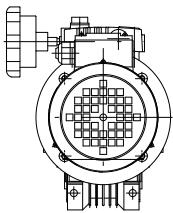


Z4



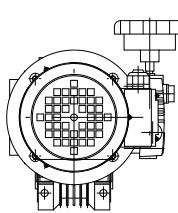
MB无级与WMRV系列组合方式

Z1

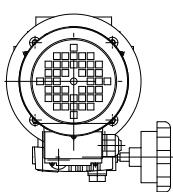


Compound mode of MB variator and WMRV series reducer

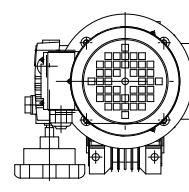
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Z3

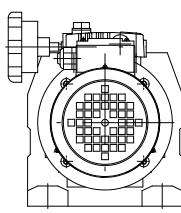


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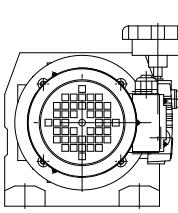
MB无级与WR系列组合方式

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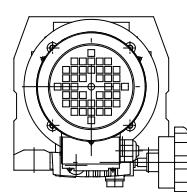


Compound mode of MB variator and WR series reducer

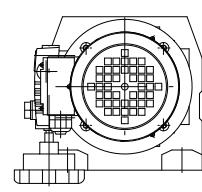
Z2



Z3



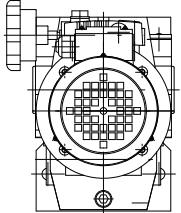
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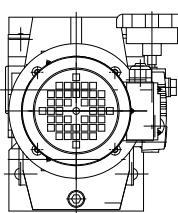
MB无级与WK系列组合方式

Compound mode of MB variator and WK series reducer

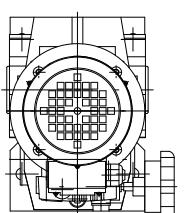
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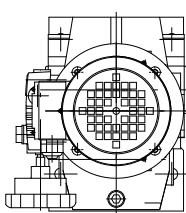
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Z3



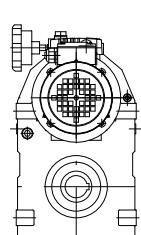
Z4



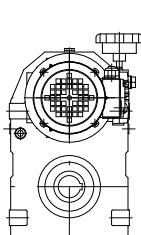
MB无级与WF系列组合方式

Compound mode of MB variator and WF series reducer

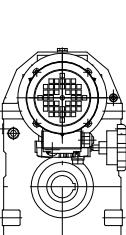
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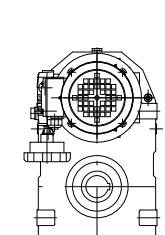
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Z3



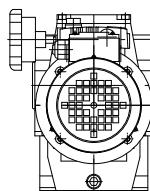
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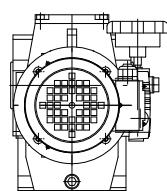
MB无级与WS系列组合方式

Compound mode of MB variator and WS series reducer

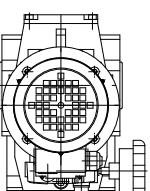
Z1



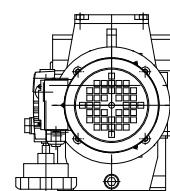
Z2



Z3

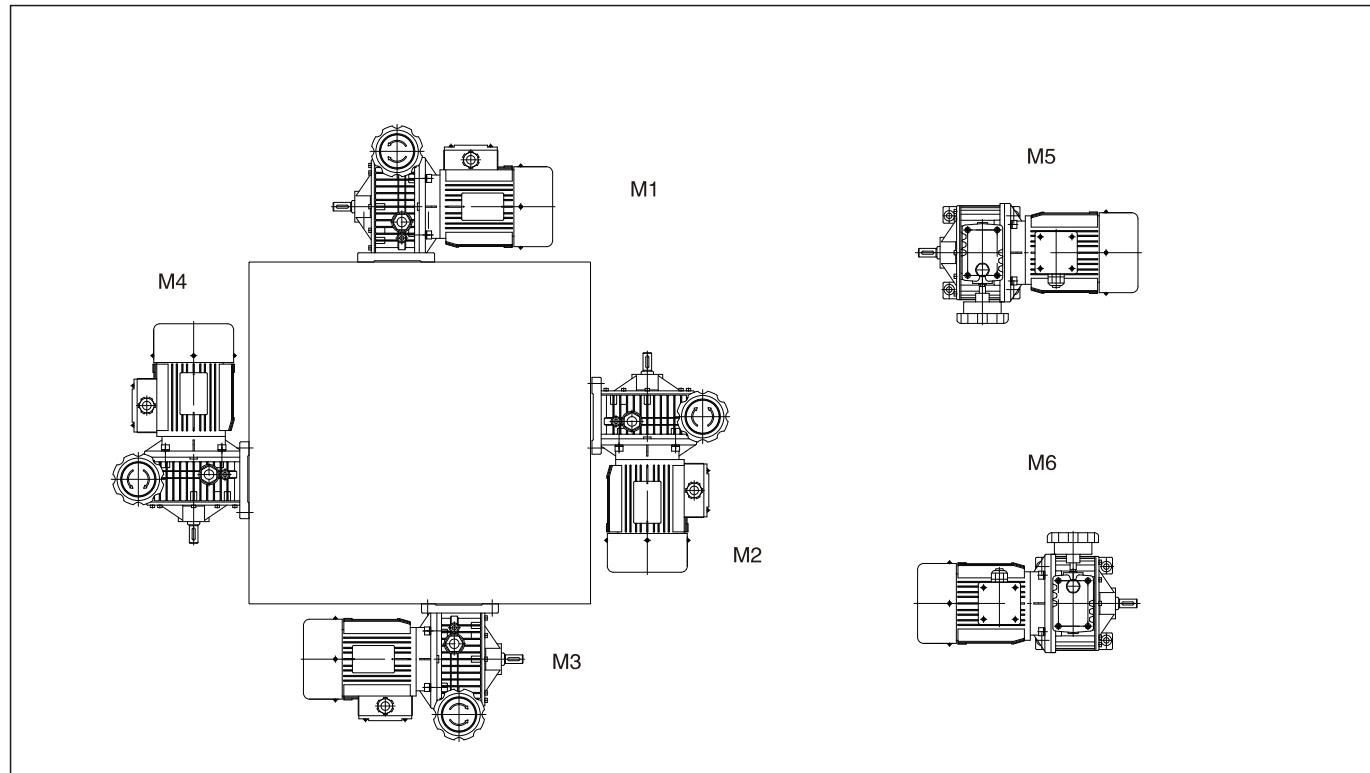


Z4



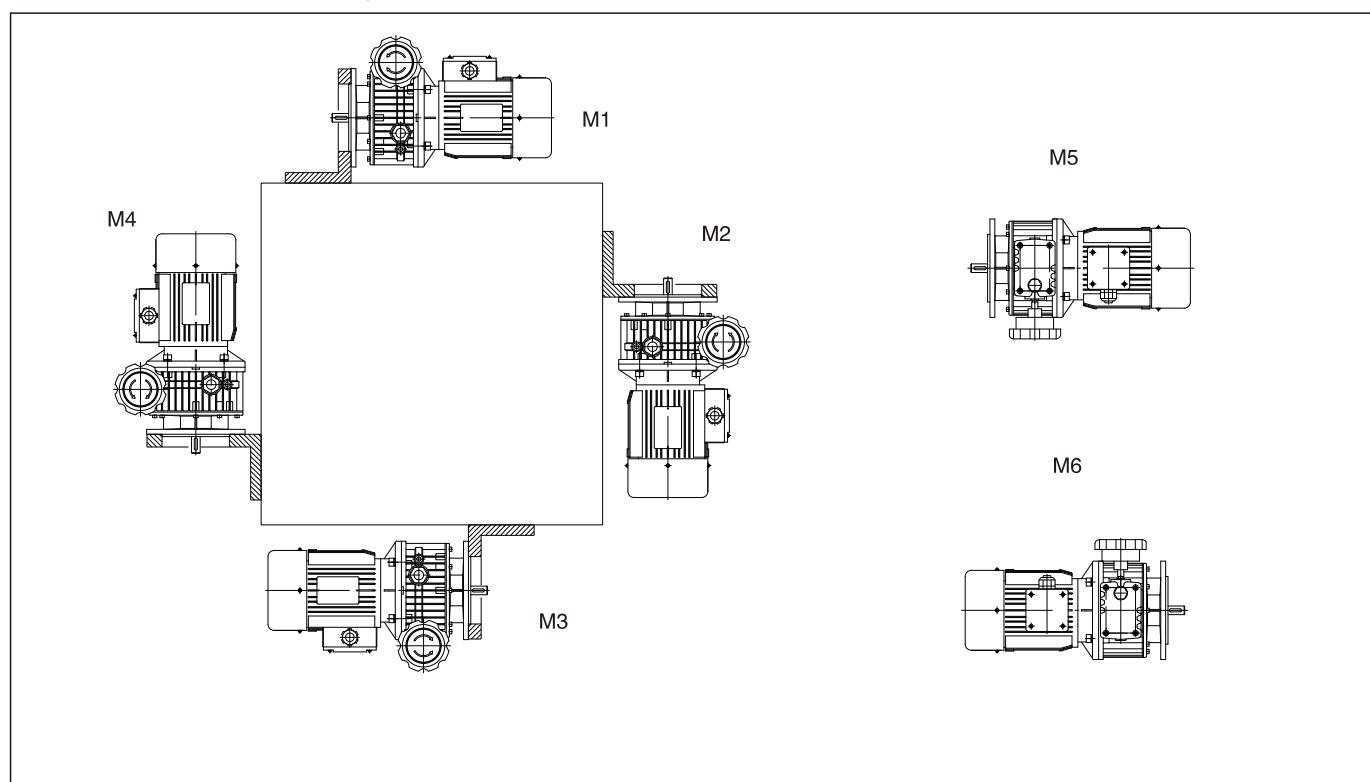
MBW无级变速机安装方式

Mounting position of MBW variator



MBF无级变速机安装方式

Mounting position of MBF variator

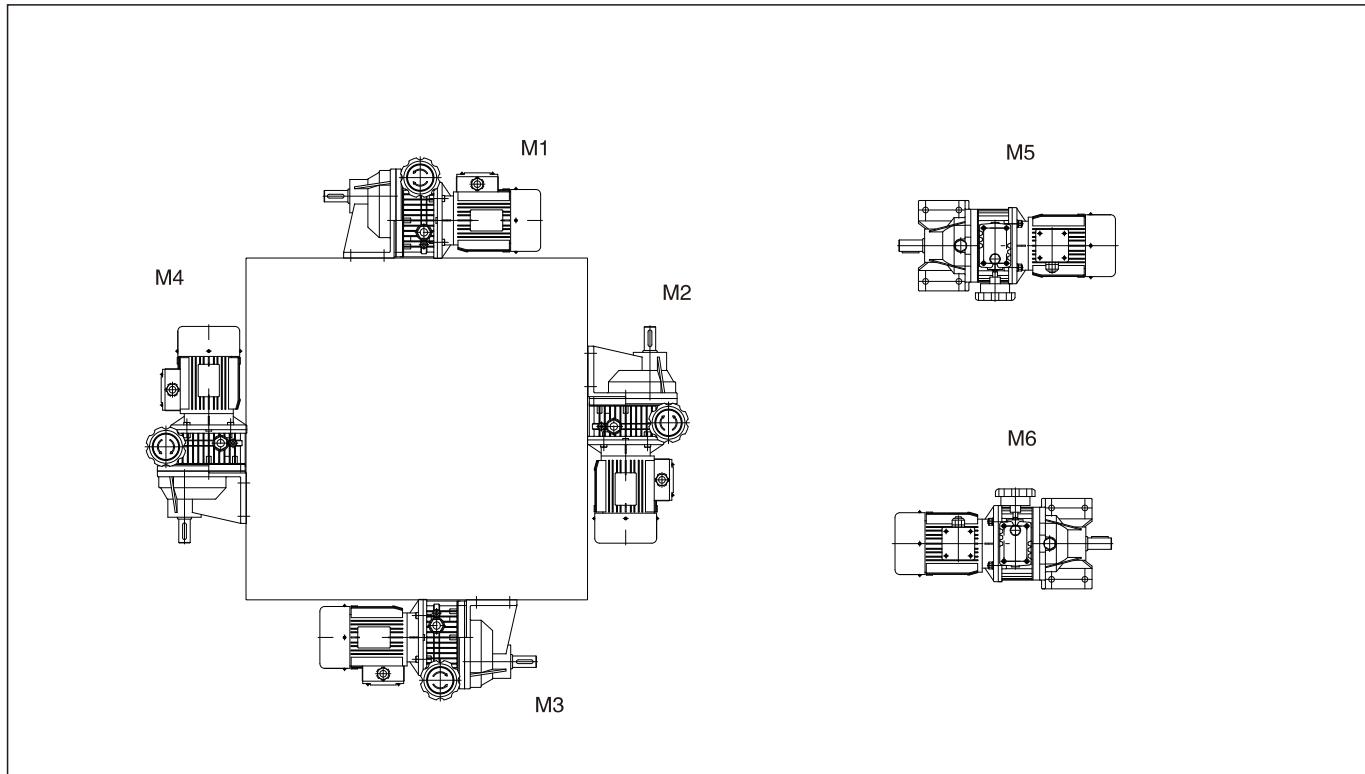


## WUMA REDUCER /

## 午马减速机

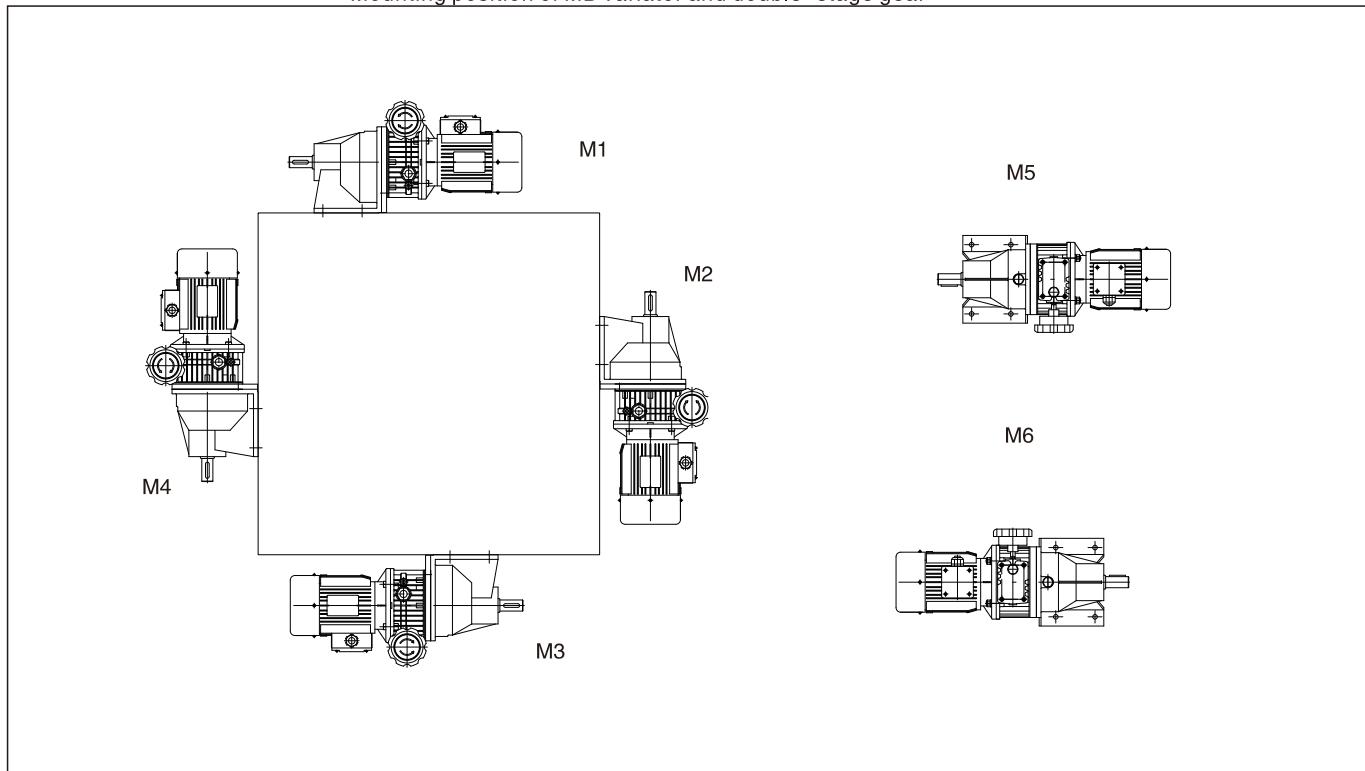
MB无级与单级齿轮组合安装方式

Mounting position of MB variator and single-stage gear

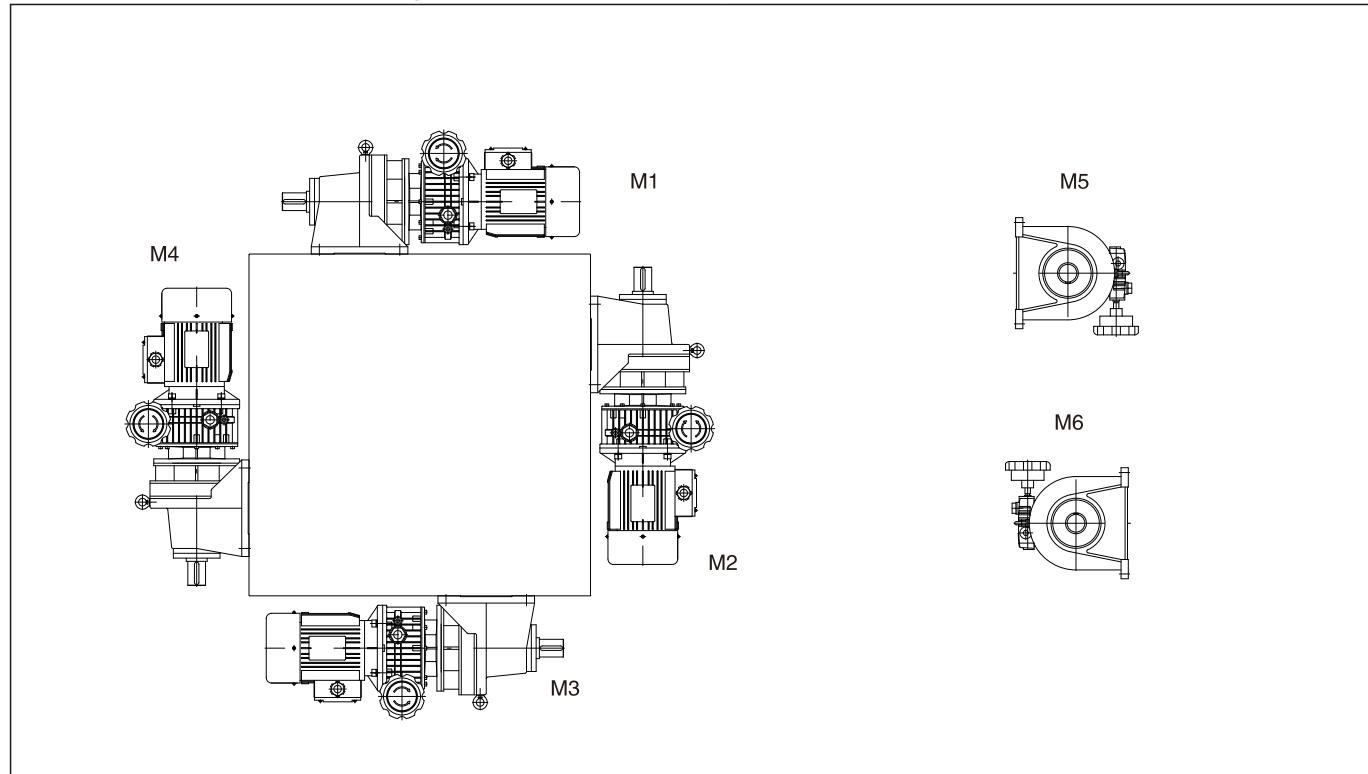


MB无级与两级齿轮组合安装方式

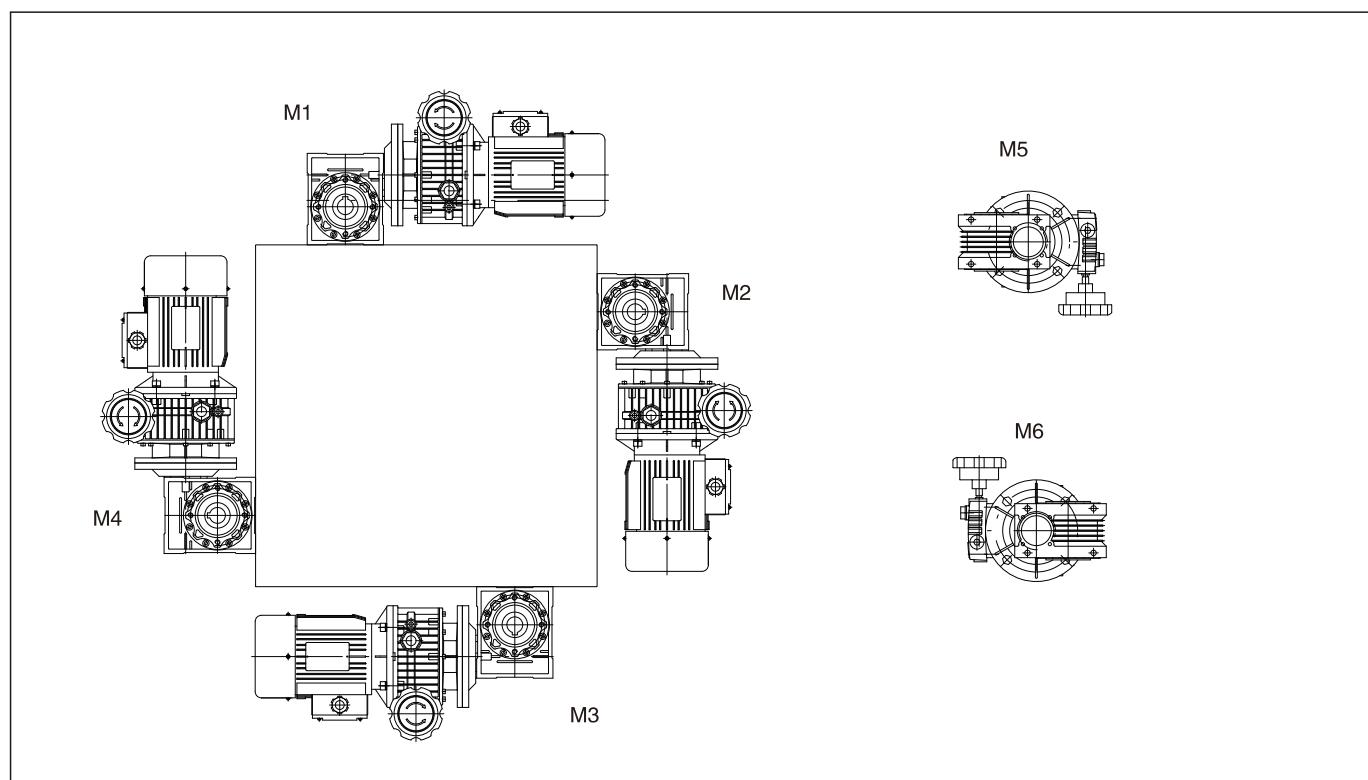
Mounting position of MB variator and double-stage gear



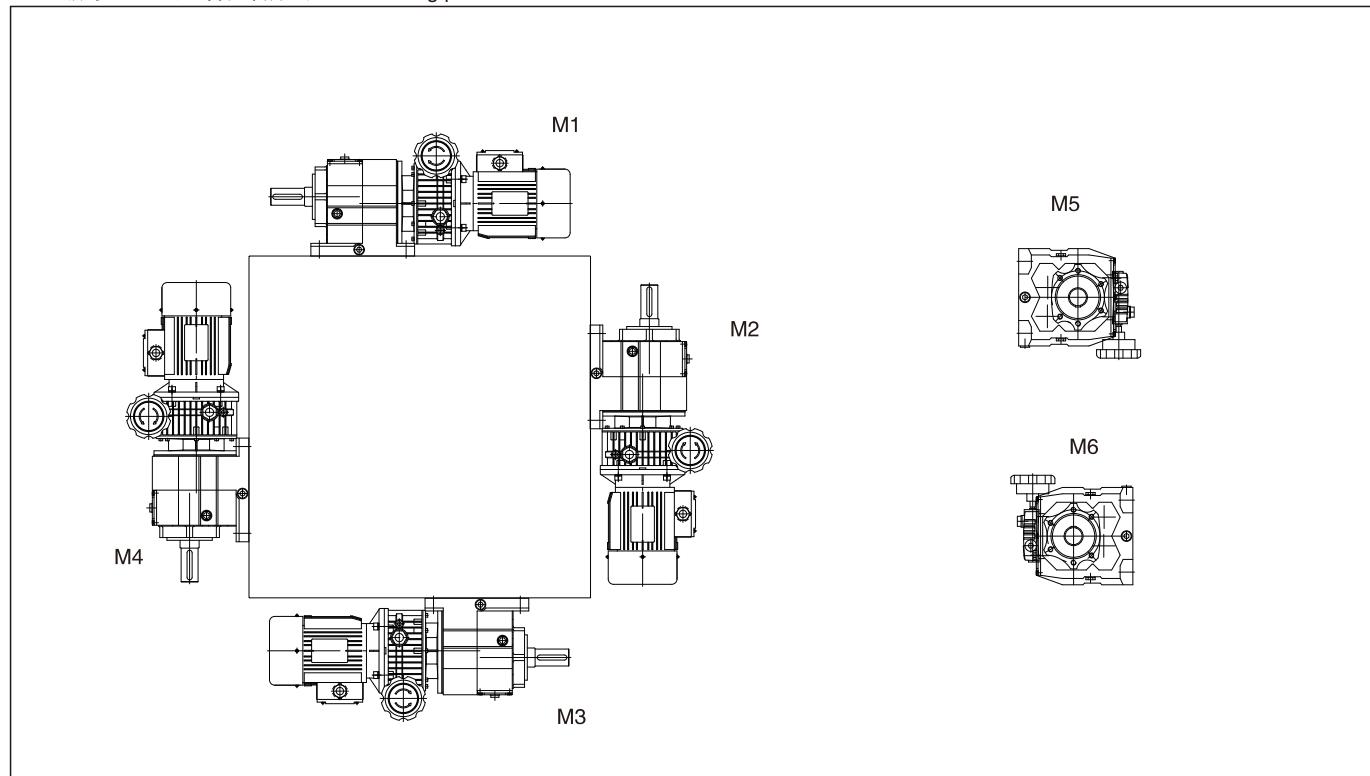
MB无级与摆线组合安装方式 Mounting position of MB variator and cycloid reducer



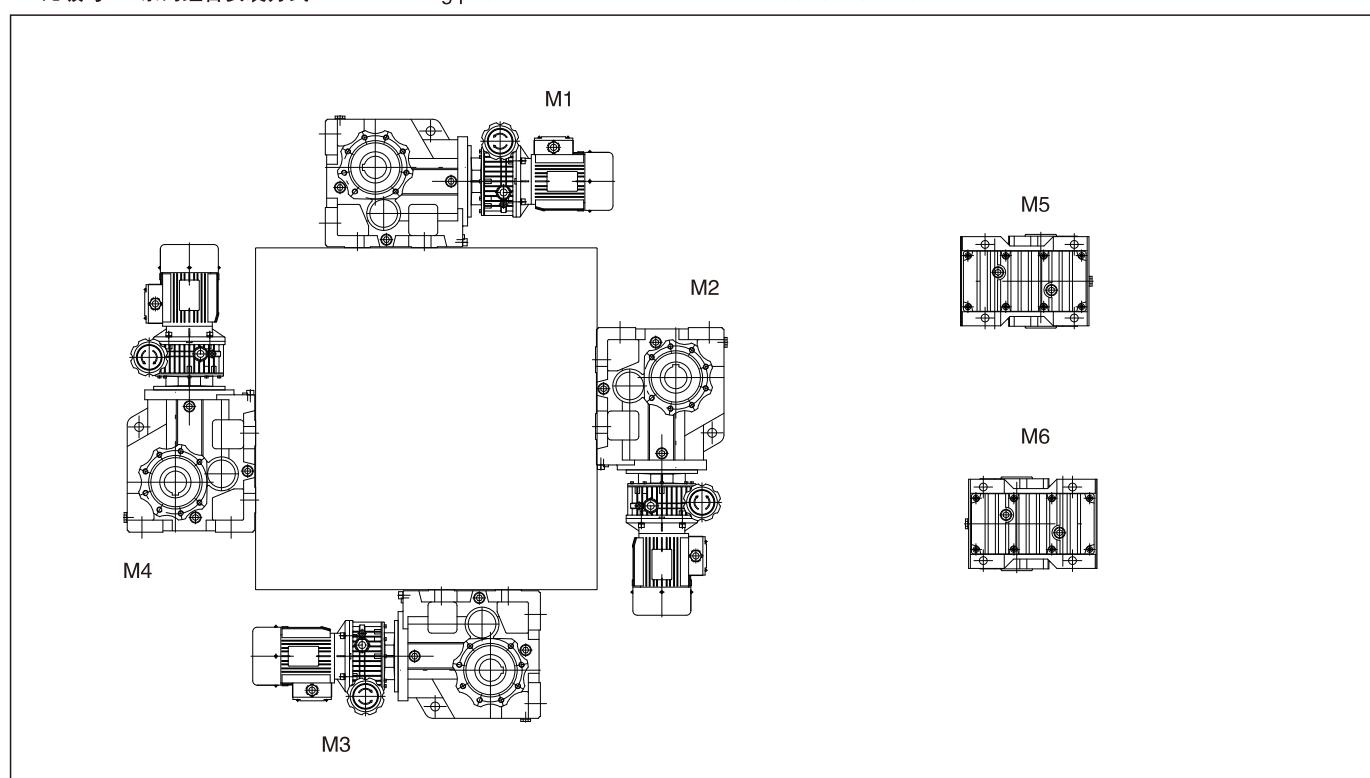
MB无级与WMRV系列组合安装方式 Mounting position of MB variator and WMRV series reducer



MB无级与WR系列组合安装方式 Mounting position of MB variator and WR series reducer

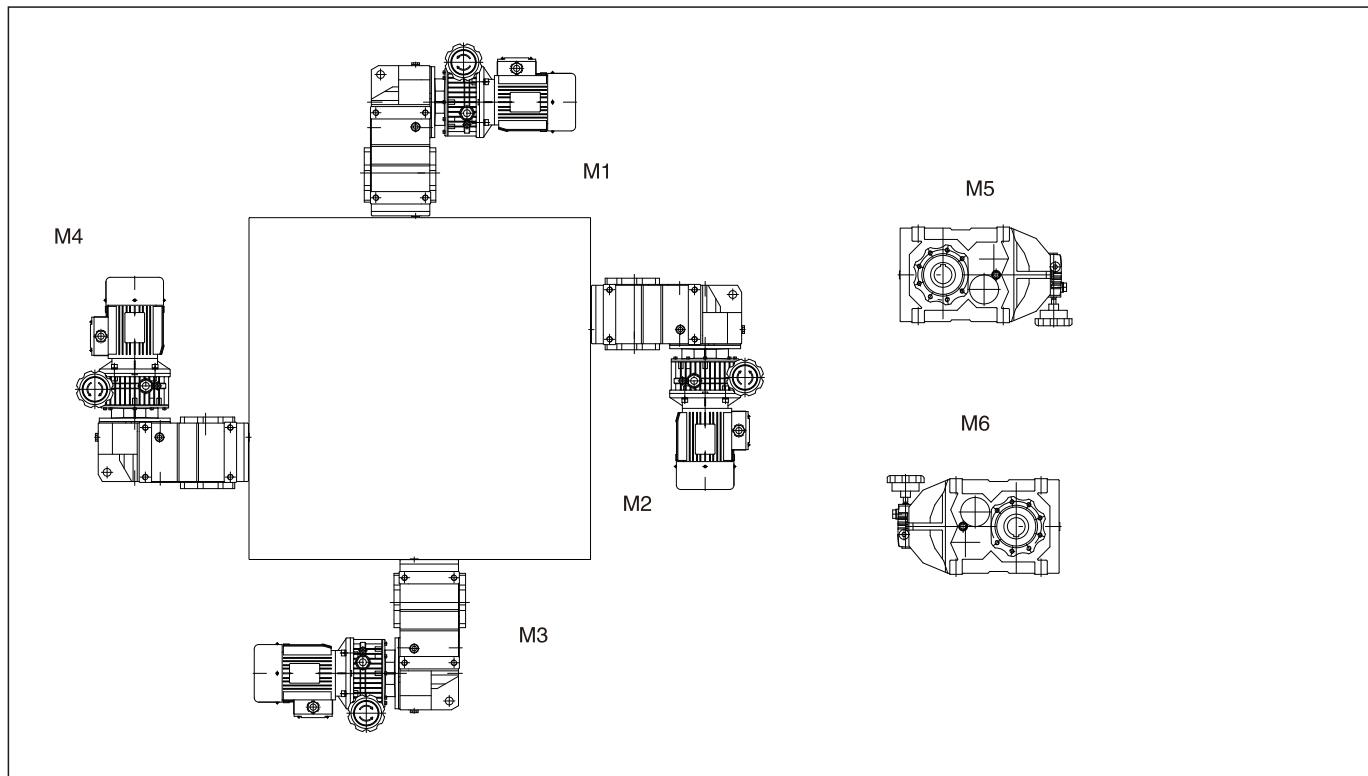


MB无级与WK系列组合安装方式 Mounting position of MB variator and WK series reducer



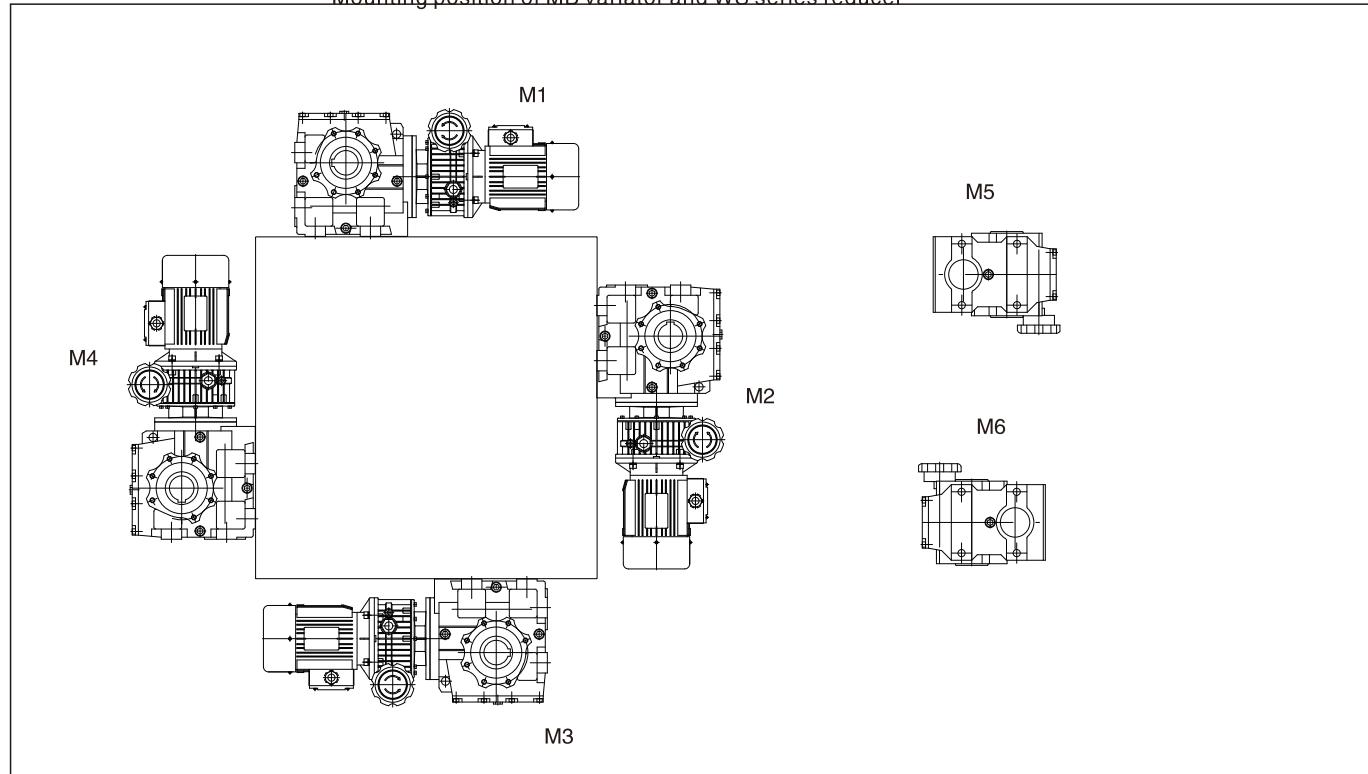
MB无级与WF系列组合安装方式

Mounting position of MB variator and WF series reducer



MB无级与WS系列组合安装方式

Mounting position of MB variator and WS series reducer

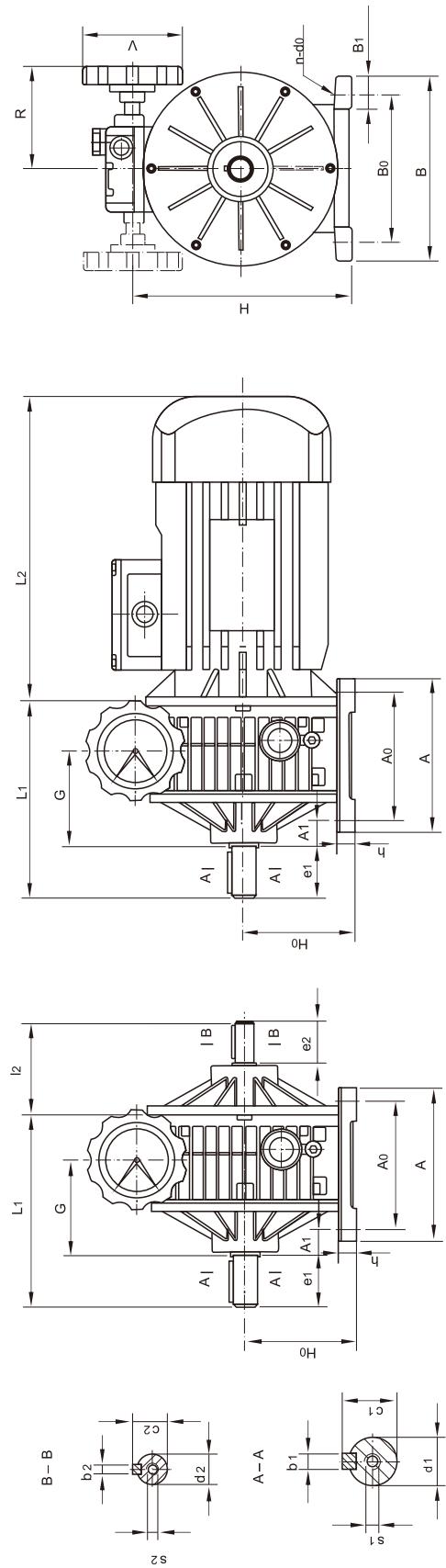








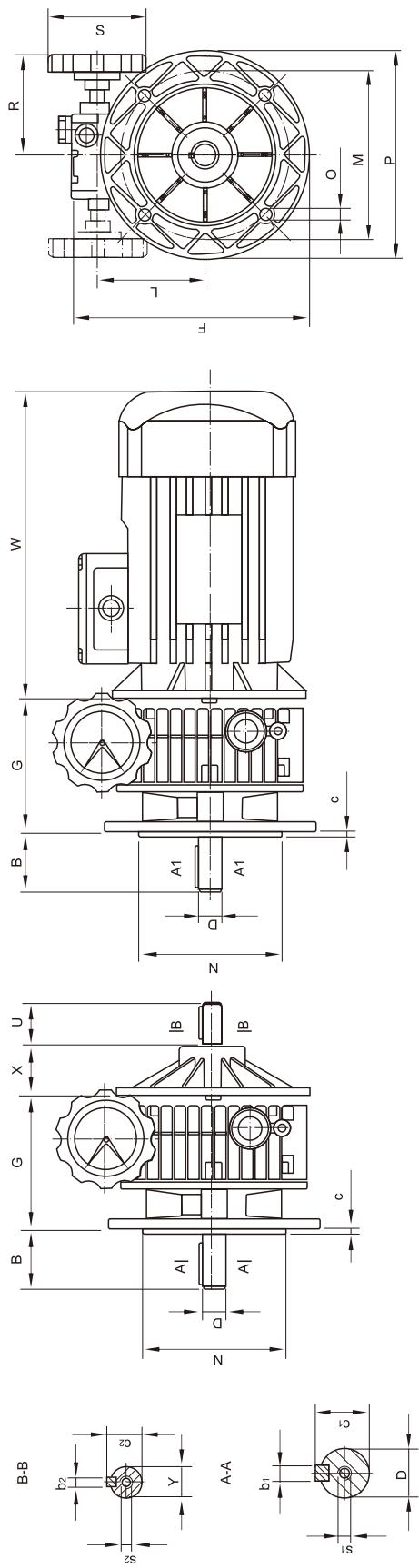




MBN系列基本型甲板卧式外形及安装尺寸  
Overall and installation dimensions of horizontal installation in MBN basic series

机座号 Frame- size	中心高 Central height H0	安装尺寸 Installation dimension										输入轴 Input shaft				外形尺寸 Overall dimensions											
		A0	A1	B0	n	d0	d1	b1	c1	e1	s1	d2	b2	c2	e2	i2	s2	A	h	G	B	B1	H	R	V	L1	L2
02	75	105	13.5	110		9	11js6	4	12.5	23	M6	11js6	4	12.5	23	74	M6	125	13	66	145	25	147	110	85	135	227
04	90	20	20	120	4	9	14js6	5	16	30	M6	14js6	5	16	30	79	M6	125	15	73	150	27	179	110	85	140	245
07	106	125	28	160		10	19js6	6	21.5	40	M6	19js6	6	21.5	40	110	M6	150	13	84.5	190	28	213	115	110	178.5	250

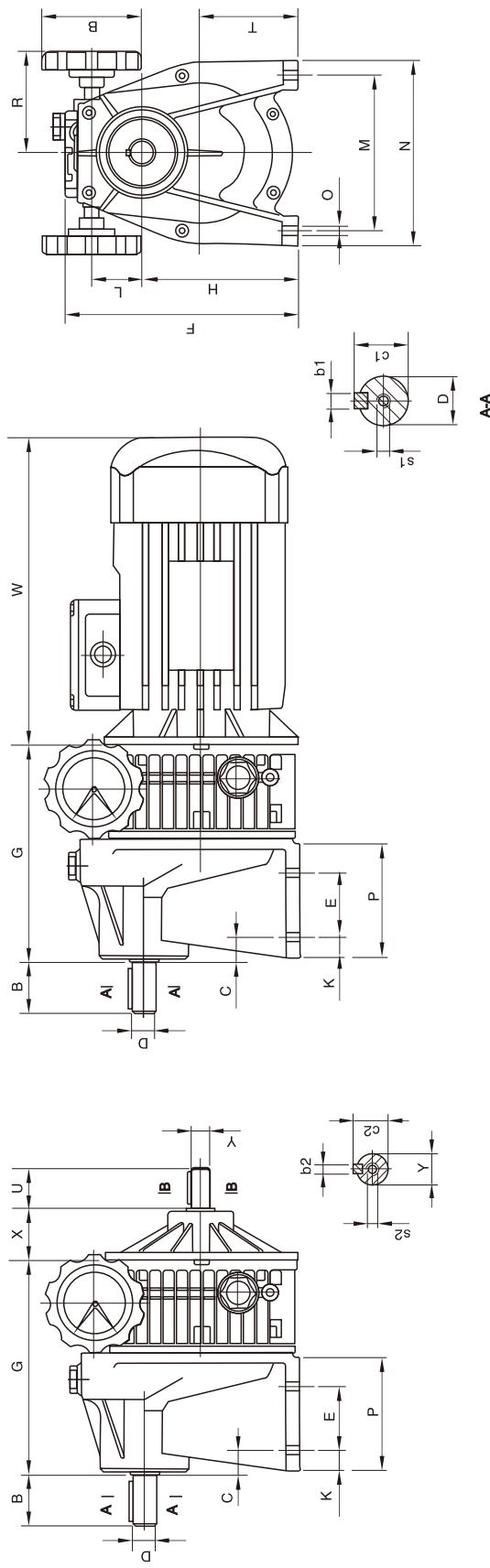
02、04、07可供铝合金箱体  
02、04、07 available Al-alloy box



MBN系列基本型法兰立式安装尺寸  
Overall and installation dimensions of vertical installation in MBN basic series

机座号 Frame size	外形及安装尺寸 Overall and installation dimensions																				
	B	C	D (js6)	F	G	Y (js6)	L	M	N	O	P	R	S	U	X	W	b1	c1	s1	b2	c2
02	23	11	181	112.5	11	77	115	95	9	140	110	85	23	51	227	4	12.5	M6	4	12.5	M6
04	30	3.5	203	110	14	89	130	110	9	160	110	85	30	49	245	5	16	M6	5	16	M6
07	40	19	240	139	19	107	165	130	11	200	115	110	40	70	250	6	21.5	M6	6	21.5	M6

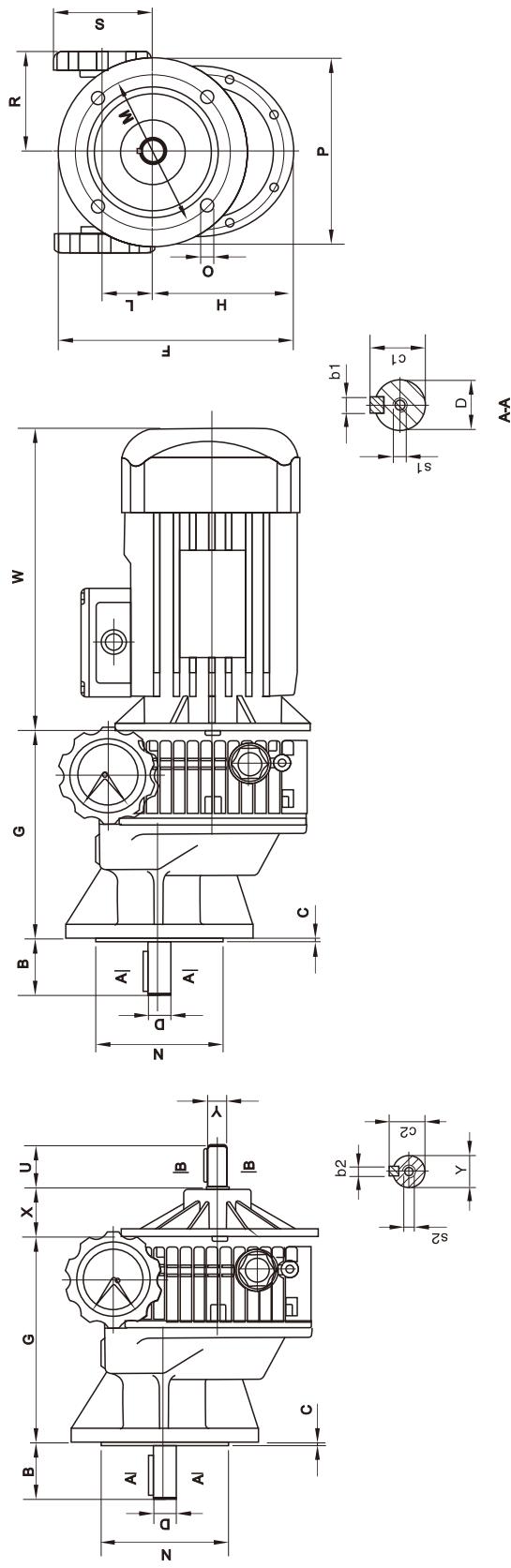
02、04、07可供铝合金箱体  
02、04、07 available Al-alloy box



MBN系列-C单级卧式齿轮减速机组合外形及安装尺寸  
Overall and installation dimensions of horizontal combination to MBN-C combines single-stage gear reducer

机座号 Frame size	外形及安装尺寸 Overall and installation dimensions																									
	B	C	D (is6)	E	F	G	H	Y (is6)	L	M	N	O	P	R	S	T	U	X	W	K	b1	c1	s1	b2	c2	s2
02-C	40	18	19	45	167	180	108	11	35	105	130	9	80	110	85	66	23	51	227	16	6	21.5	M6	4	12.5	M6
04-C	50	6	24	70	193	188	130	14	39	150	190	10.5	105	110	85	79	30	49	245	15	8	27	M8	5	16	M6
07-C	60	7	28	70	228	225	160	19	45	165	210	12	130	115	110	99	40	70	250	25	8	31	M8	6	21.5	M6

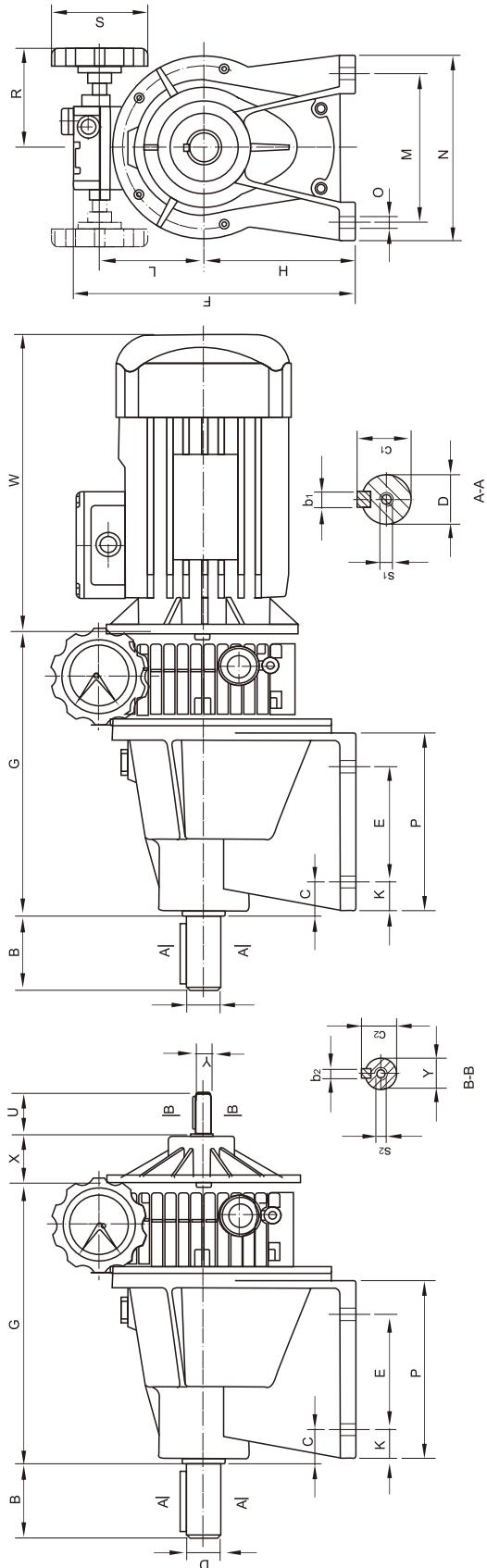
02、04、07可供铝合金箱体  
02、04、07 available Al-alloy box



MBN系列-C单级立式齿轮减速机组合外形及安装尺寸  
Overall and installation dimensions of vertical combination to MBN-C combines single-stage gear reducer

机座号 Frame size	外形及安装尺寸 Overall and installation dimensions																						
	B	C	D (is6)	F	G	H	Y (is6)	L	M	N	O	P	R	S	U	X	W	b1	c1	s1	b2	c2	s2
02-C	40	3	19	182	180	112	11	35	115	95	9	140	110	85	23	51	227	6	21.5	M6	4	12.5	M6
04-C	50	4	24	211	188	131	14	39	130	110	10.5	160	110	85	30	49	245	8	27	M8	5	16	M6
07-C	60	4	28	261	225	161	19	45	165	130	13	200	115	110	40	70	250	8	31	M8	6	21.5	M6

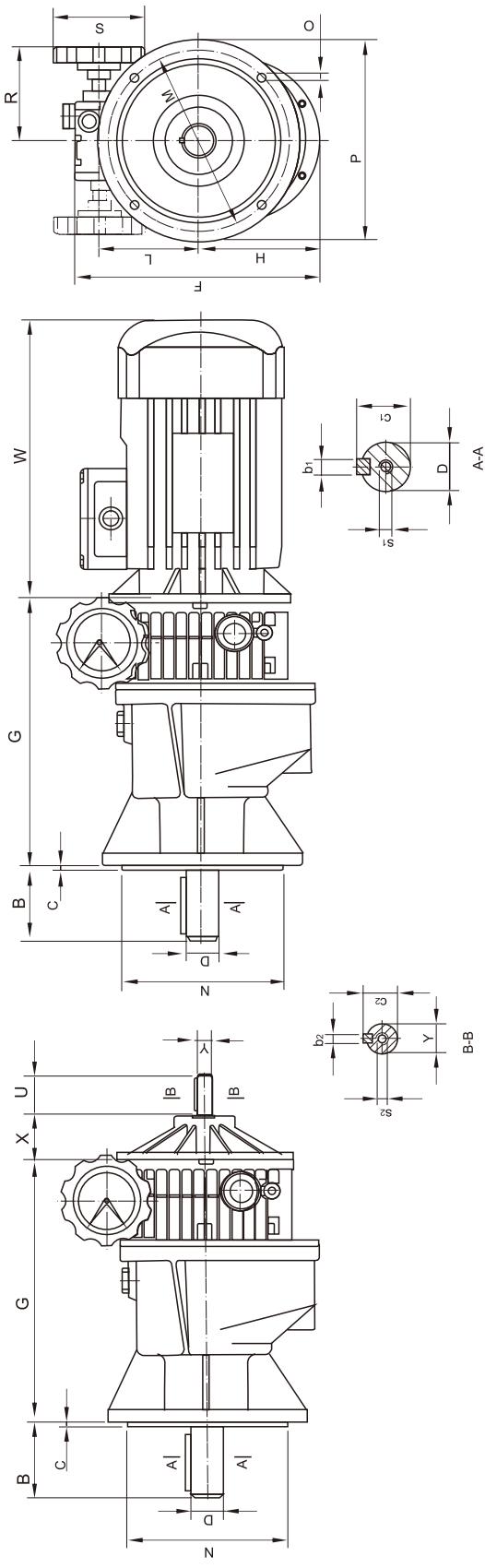
02、04、07可供铝合金箱体  
02、04、07 available Al-alloy box



MB、MBN系列-2C二级卧式齿轮减速机组合外形及安装尺寸  
Overall and installation dimensions of horizontal combination to MB, MBN-2C combines double-stage gear reducer

机座号 Frame size	外形及安装尺寸 Overall and installation dimensions														
	B	C	D (S6)	E	F	G	H	Y (S6)	L	M	N	O	P	R	S
MBN02-2C	40	27	19	70	206	226	105	11	77	105	130	9	120	110	85
MBN04-2C	55	25	28	85	224	239	110	14	90	150	190	10.5	140	110	85
MBN07-2C	65	26	32	106	281	276	152	19	106	174	212	13	161	115	110
MB15-2C	70	27	38	130		332	172	24	121	200	250	14	185	135	110
MB22-2C	110	43	55	180		447	235	24	150	250	320	18	266	166	110
MB40-2C	110	43	55	180		447	235	24	150	250	320	18	266	166	110
MB55-2C	140	48	70	250		565	280	38	192	300	380	21	344	182	110
MB75-2C	140	48	70	250		565	280	38	192	300	380	21	344	182	110

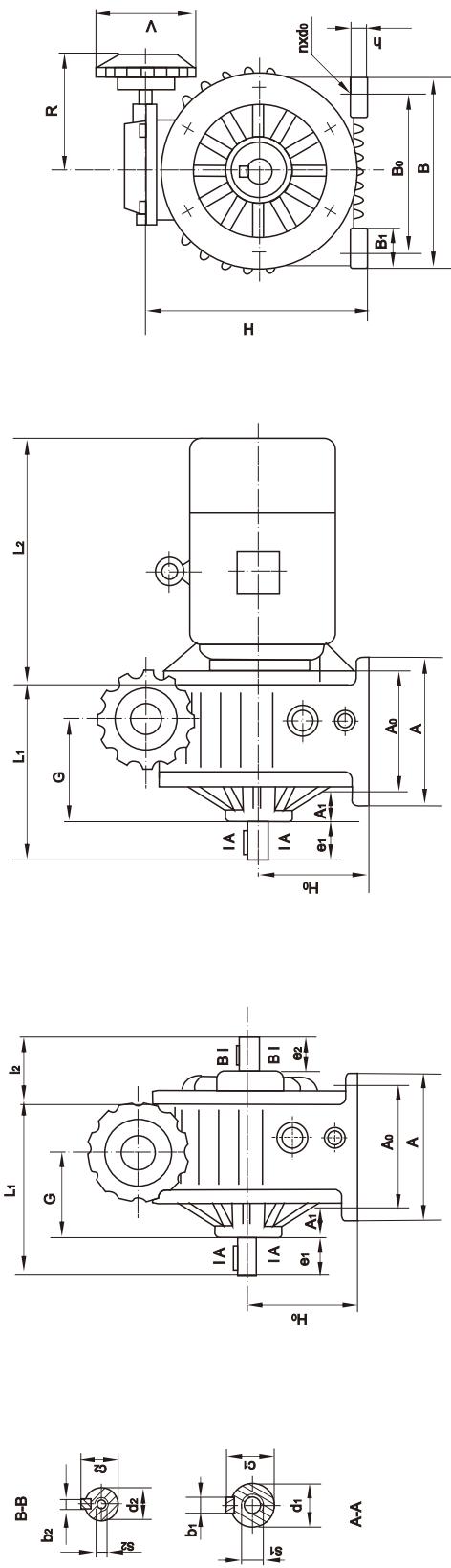
02、04、07可供铝合金箱体  
02、04、07 available Al-alloy box



**MB、MBN系列-2C二级立式齿轮减速机组合外形及安装尺寸**  
Overall and installation dimensions of horizontal combination to MB, MBN-2C combines double-stage gear reducer

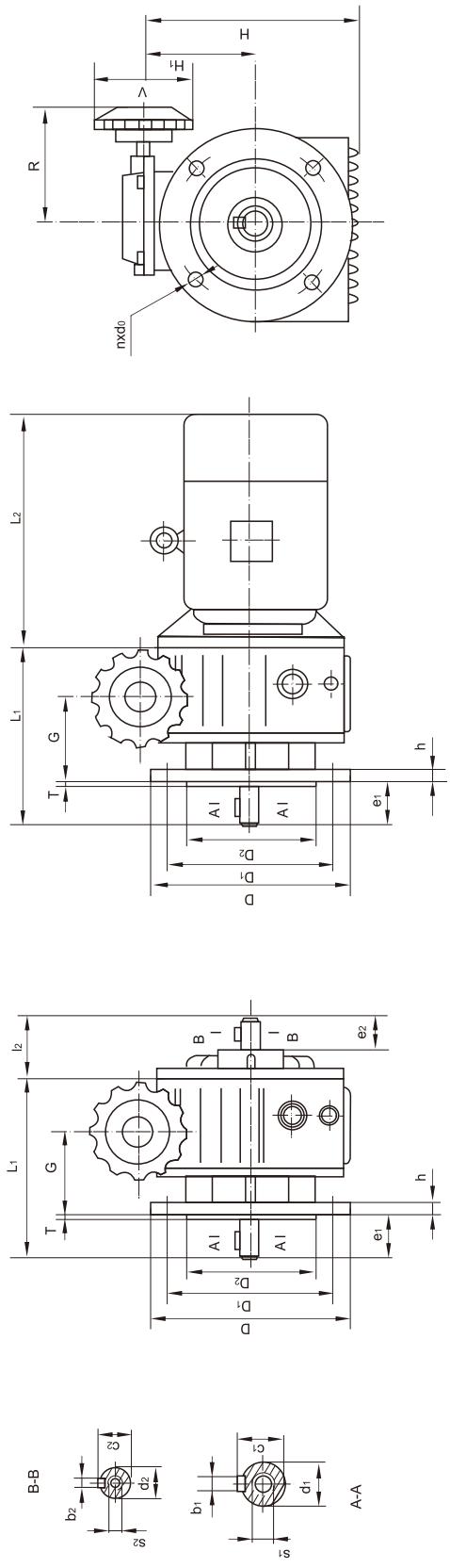
机座号 Frame size	外形及安装尺寸 Overall and installation dimensions																				
	B	C	D (js6)	G (js6)	Y (js6)	L	M	N	O	P	R	S	U	X	W	b1	c1	s1	b2	c2	s2
MBN02-2C	40	3	19	226	11	77	115	95	9	140	110	85	23	51	227	6	21.5	M6	4	12.5	M6
MBN04-2C	55	4	28	239	14	90	130	110	10.5	160	110	85	30	49	245	8	31	M8	5	16	M6
MBN07-2C	65	4	32	19	106	165	130	12.5	200	115	110	40	70	250	10	35	M10	6	21.5	M6	
MB15-2C	70	5	38		24	121	215	180	14.5	250	135	110	40	51	285	10	41	M10	8	27	M8
MB22-2C	110	5	55		24	151	265	230	14.5	300	166	110	50	69	320	16	59	M12	8	31	M8
MB40-2C	110	5	55		24	151	265	230	14.5	300	166	110	50	69	340	16	59	M12	8	31	M8
MB55-2C	140	5	70		38	192	300	250	18	350	182	110	60	49	395	20	74.5	M16	10	41	M10
MB75-2C	140	5	70		38	192	300	250	18	350	182	110	60	49	435	20	74.5	M16	10	41	M10

02、04、07可供铝合金箱体  
02、04、07 available Al-alloy box



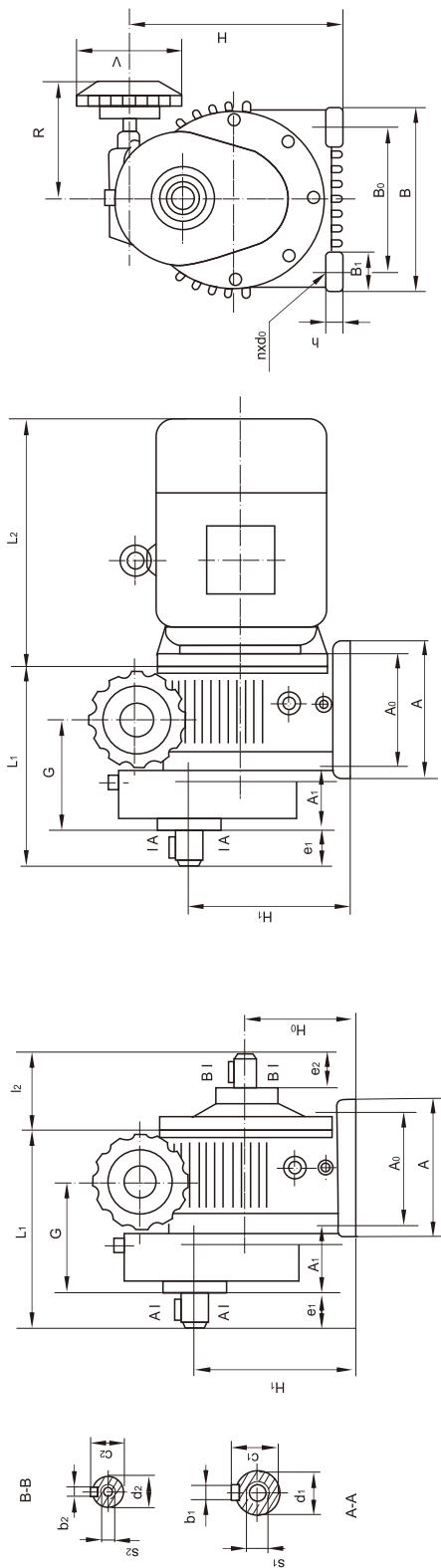
MB 系列基本型甲板卧式外形及安装尺寸  
Overall and installation dimensions of horizontal installation to MB basic series

机座号 Frame Size	安装尺寸 Installation dimensions										输入轴 Input shaft						外形尺寸 Overall dimensions										
	H0	A0	A1	B0	n	d0	d1	b1	c1	e1	s1	d2	b2	c2	e2	l2	s2	A	h	G	B	B1	H	R	V	L1	L2
15	125	140	50	180		12	25js6		28	50						40	91		165	18	107	230	50	246	135	223	285
22	150	230	25	245	4	14	30js6	8	33	60	M8	24js6	8	27	50	119	M8	270	25	131	300	55	300	168	110	268	320
40																										340	
55	200	250	33	315		18	35js6	10	38	70	M10	32js6	10	35	60	109	M10	290	30	131	365	70	392	194		319	395
75																											435



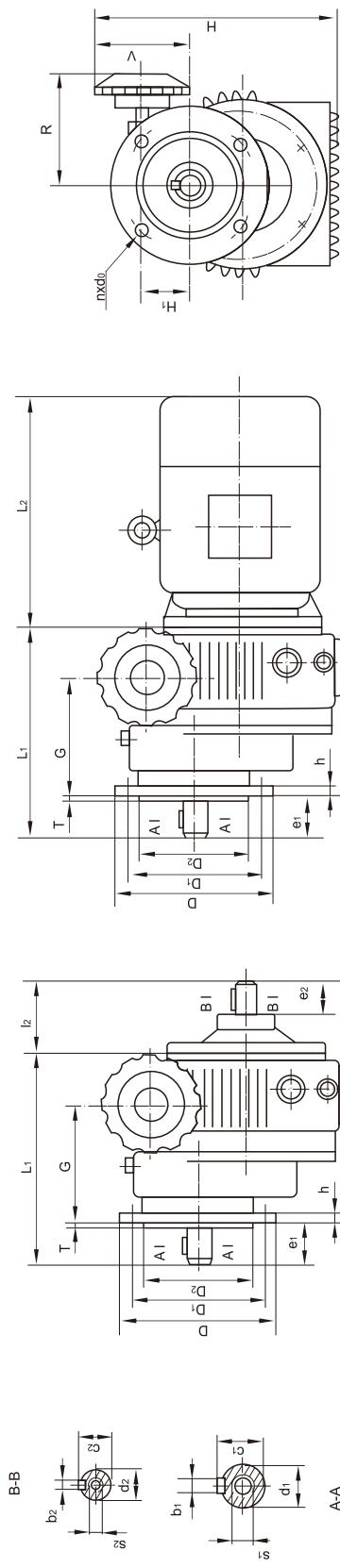
MB 系列基本型法兰式外形及安装尺寸  
Overall and installation dimensions of vertical installation to MB basic series

机座号 Frame Size	安装尺寸 Installation dimensions							输出轴 Output shaft							输入轴 Input shaft							外形尺寸 Overall dimensions			
	D1	D2	T	n	d0	d1	b1	c1	e1	s1	d2	b2	c2	e2	I2	s2	D	h	G	H	H1	R	V	L1	L2
15	215	180			25js6	28	50				40	91			250	107	246	121	135				223	285	
			4	4	15	8	33	60		M8	24js6	8	27	50	119		M8	300	16	131	300	150	166	110	268
22	265	230			30js6																			320	340
40																									
55	300	250	5	4	19	35js6	10	38	70	M10	32js6	10	35	60	109	M10	350	20	131	392	192	194		319	395
75																									435



MB 系列一级齿轮型甲板卧式外形及安装尺寸  
Overall and installation dimensions of horizontal combination to MB combines single-stage gear reducer

机座号 Frame Size	中心高 Central height H0	H1	A0	A1	B0	n	安装尺寸 Installation dimensions			输出轴 Output shaft			输入轴 Input shaft			外形尺寸 Overall dimensions												
							d1	b1	c1	e1	s1	d2	b2	c2	e2	I2	s2	A	h	G	B	B1	H	R	V	L1	L2	
15	125	190	140	78	180		12	30js6	8	33	45	M8		40	91		165	18	133	230	50	246	135		245	285		
22	150	230	230	63	245	4	14	40k6	12	43	60		24js6	8	27	50	119	M8	270	25	170	300	55	300	168	110	306	320
40													M10														340	
55	200	320	250	157	315	18	50k6	14	53.5	82		32js6	10	35	60	109	M10	290	30	255	365	70	392	194		455	395	
75																												435



MB 系列带一级齿轮型法兰式外形及安装尺寸  
Overall and installation dimensions of vertical combination to MB combines single-stage gear reducer

机座号 Frame Size	安装尺寸 Installation dimensions							输出轴 Output shaft							输入轴 Input shaft							外形尺寸 Overall dimensions								
	D1	D2	T	n	d0	d1	b1	c1	e1	s1	d2	b2	c2	e2	I2	s2	D	h	G	H	H1	R	V	L1	L2					
15	165	130			30js6	8	33	45	M8		24js6	8	27	40	91	200	M8	250	16	200	300	70	166	110	266	285				
22	215	180		4	40js6	12	43	60							119									337	340	320				
40					4	15										M10											395			
55											50js6	14	53.5	82			32js6	10	35	60	109	M10	300	20	255	392	72	194		455
75																											435			





**机型号，电机的选择及温升**

1. 准确选择机型核心的依据是使选用的电机---变速机组与预计要求的负载和成本相适应。在某种情况下,可能由于缺乏预见或者由于过载,而选取不够大的组件,引起故障和失败,反之选取过份功率大的传动系统,意味着消耗的资源增加,一旦被驱动工作机的功率和扭矩已经确定,下一个步骤就是估计载荷的性质,存在的惯性和冲击载荷,如果有的话,载荷类型(见表就好确定,因而可相应地选取机型).

工作情况	K
均与负载,连续负载,经常旋转,无惯性	1
中等冲击负荷,脉动载荷,经常反转,中等惯性	1.3
中等冲击负荷,脉动载荷,经常反转,很大的惯性	1.5
严重的冲击负荷,脉动载荷,很大的惯性	1.75

十分合适的变速机是指能够承受很大的过载能力,如果变速机平稳的工作,并精确地与所需的负载相称。尽管如此,也必须考虑到特殊的和不经常的工作情况。有了定载荷类型的参考表,驱动机械需要的功率应乘以所选定的工作情况系数K。

2.电动机：采用三相异步，全封闭，外部通风，笼式转子的标准电动机，外壳防护为IP54，即防尘，防溅（欧洲标准--与我国Y系列电机标准一样）。绝缘等级为B级。电机轴直接与变速机联接必需装有油封。起动频率，允许每分钟最高起动次数为5次，更高的起动频率对变速机的使用寿命有不利影响。

3.温升：变速机用四极电机时，此时，部件在跑合（空车运转）开始时，温升高于正常工作的温升，约高于环境温度40–45°C，当跑合运转60–80小时后，温升逐渐降低，此后，温度高于环境温20°C，并保持稳定的温升。变速机用二极电机时，跑合的持续时间和影响基本与四极电机一样。然而，在这种情况下，跑合时高的温升影响正常允许的工作条件，但对部件的使用寿命无有害影响。

**Selection guide**

1.The core base is the selection which must be fit for the load and cost to the combination. perhaps the load is unexpected or too big. it makes combination damaged other side, if the power of combination is to big, it means wasting resource, if the power and torque is known, we should wxtimate the character of load ,so choosethe accurate safe factor" K" to combination.

Working condition	K
Single,stable,continue,rotating and no intertia	1
Plusating, middle shock load, often reberse,middle intertia	1.3
Plusating, middle shock load,often reverse, hard intertia	1.5
Hard shock load, often reverse,hard intertia	1.75

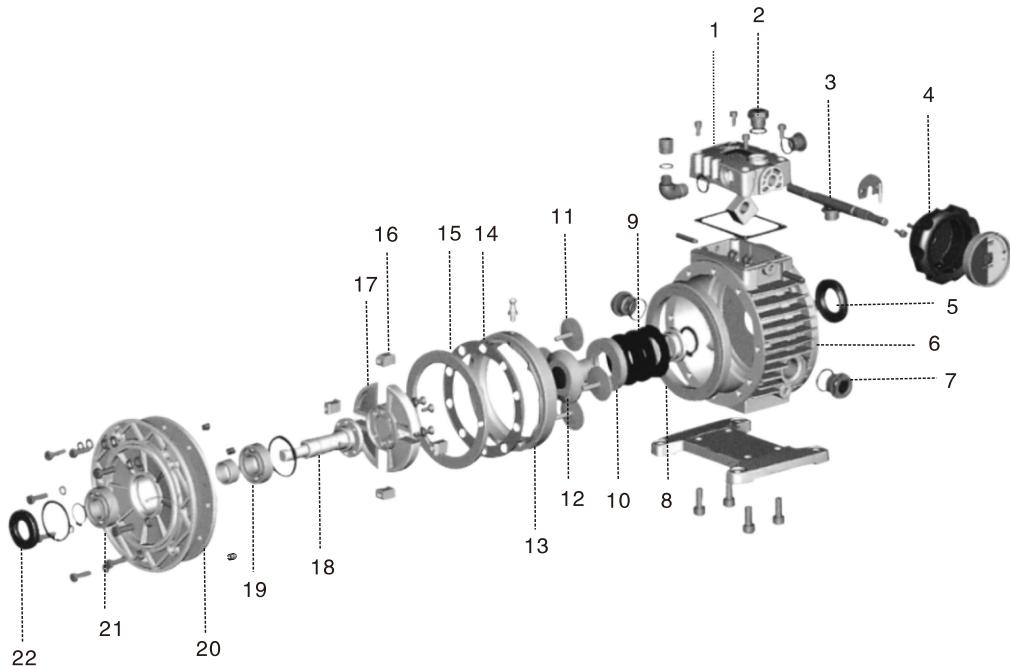
Choose safe factor "K" accurately to count the combination power.

2.Electric motor: threephase, asynchronous, protect grade Ip54, insulation grade B. Electric motor must be equipped with oil seal when it is connected directly with variator. it starts less than five times every minutes, or its life will be reducd.

3.The temprature will drop after 60–80 hour running when variator equipped with four-pole electric motor runs at first time and it will remain stable. if variator is equipped with two-pole electric motor, the temprature will drop after 80–100 hours running, later, it will remain stable, this process is harmless to variator's life.

MB、MBN系列行星锥盘无极变速机  
MB、MBN SERIES Planetaty cone-disk variator

结构示意图 Structural Demonstration



序号	名称
1	调速盖
2	通气螺塞
3	调速丝杆
4	调速手柄
5	油封
6	箱体
7	油镜
8	定环

序号	名称
9	蝶形弹簧
10	压轮
11	行星轮
12	恒轮
13	调速凸轮
14	平面轴承
15	固定平面凸轮
16	滑动轴承

序号	名称
17	转臂
18	输出轴
19	轴承
20	输出法兰
21	轴承
22	油封

No.	Name
1	Speed control cover
2	Breather vent
3	speed control lead screw
4	speed control handwheel
5	oil seal
6	tank
7	oil mirror
8	fixed ring

No.	Name
9	butterfly spring
10	press wheel
11	planetary wheel
12	constant wheel
13	speed-regulating cam
14	surface bearing
15	fixed cam
16	slide-block bearing

No.	Name
17	torque
18	output shaft
19	bearing
20	output flange
21	bearing
22	oil seal

## 减(变)速机订货须知

- 1、主机名称:\_\_\_\_\_  
 2、减速机在主机中的作用\_\_\_\_\_  
 3、使用环境条件:温度\_\_\_\_\_摄氏度  
 4、每天运转时间\_\_\_\_\_  
 5、电机类型\_\_\_\_\_功率\_\_\_\_\_千瓦;电压\_\_\_\_\_伏特;输入转速\_\_\_\_\_转/分;频率\_\_\_\_\_赫兹  
 6、传动比\_\_\_\_\_;输出轴转速\_\_\_\_\_转/分  
 7、减速机所承受载荷(转矩)\_\_\_\_\_N.m  
 8、减速机型号规格(按型号表示示例填写)\_\_\_\_\_  
 9、减速机与电动机连接方式\_\_\_\_\_  
 10、所需台数\_\_\_\_\_,希望供货时间\_\_\_\_年\_\_\_\_月\_\_\_\_日  
 11、用户在订货时,双方需要签定全国同一格式文本合同,签定生效后,双方务必按《中华人民共和国合同法》中有关条款规定执行。  
 12、在签定合司前,必须详细阅读了解本书中的各产品性能,使用范围特点,各种机型的型号表示方法,包括机型号安装方式、是否带电机、减速比、电机功率、扭矩力等相关内容。直接配电机的产品,除注明电机功率外,还要务必注明机种类,相数(电机)极数(转数)如没有注明一律按三相四极交流电机出厂。  
 13、用户在订货时尽量选取我公司的型号、规格、如特殊减速比、变速比、特殊电机可特殊订货,我公司可为用户特殊设计制造。  
 14、本书所例的各项技术数据及其他,可供用户参考使用,如有技术改进,恕不另行通知。  
 注: a、选择带无级变速器的机型,为充分显示本机型的优良特性,常用转速应选择在变速范围中间值。  
 b、订货时请尽量选择本目录内的标准产品,如有特殊要求请在合同上详细说明。

## Notices in speed reducer (speed changer)procurement

- 1、Main unit name:\_\_\_\_\_  
 2、Purpose of speed reducer in main unit  
 3、Operating conditions:Temperature\_\_\_\_°C  
 4、Working time every day\_\_\_\_\_.  
 5、Motor type\_\_\_\_\_; Power \_\_\_\_ KW; Voltage\_\_\_\_V; Input rotating speed\_\_\_\_r/min; Frequency\_\_\_\_HZ  
 6、Transmission ratio\_\_\_\_\_; Output spindle rotation speed\_\_\_\_r/min  
 7、Maximum(torque)load allowed on speed reducer\_\_\_\_N.m  
 8、Type of speed reducer (fill in types as specified)\_\_\_\_\_  
 9、Coupling method between speed reducer and motor\_\_\_\_\_  
 10、Quantity required\_\_\_\_\_.Expeced delivery date\_\_\_\_year\_\_\_\_month\_\_\_\_day.  
 11、When a user places an order, the two parties shall sign a national uniform-pattern contract, which comes into effect after being signed, and the two parties shall implement according to relevant provisions in Contract Law of the People's Republic of China.  
 12、Before signing a contract, please read all technical parameters, application range and expression of types, including installation patterns, motors attached or not, speed reduction ratio, motor power, torque and so on. To products directly coupled with motors, besides motor power, motor type, phase number(motor) and stage number (rotation number) shall be specified, otherwise, we will provide 3-phase& 4-stage AC motors for all.  
 13、Users shall try to select the types manufactured by our company, Special orders are available for special speed reduction ratio, transmisson ratio and motors, and our company can design and manufacture for users.  
 14、All technical parameters and other information in this document ate for users' reference ,and we will not otherwise when any technical improvements ate made.

Note:a. When selecting the machine model with stepless speed variator, in order to fully represent the excellent properties of this model of machine, generally, the rotary speed shall be the middle value within the speed cariation range.  
 b. When ordering, please try to select the standard products in the catalogue. If there is any special requirement, please notify it in the contract.