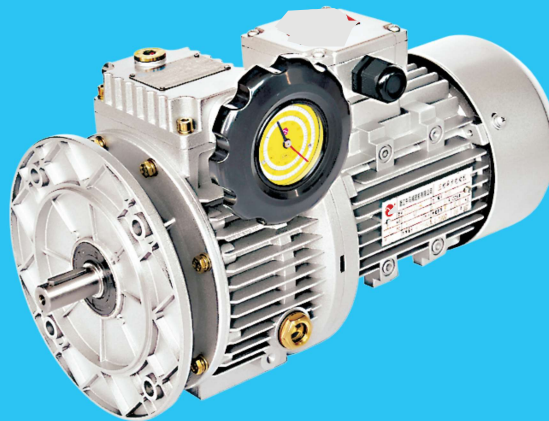
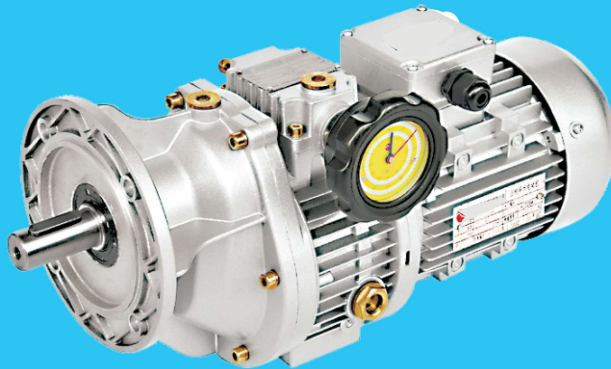


MB、MBN SERIES

planetary cone-disk variator

MB、MBN 系列行星锥盘无极变速器



上海承禹机电设备有限公司

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，因此它具有良好的

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 reversely 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）被一组碟形弹簧（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。

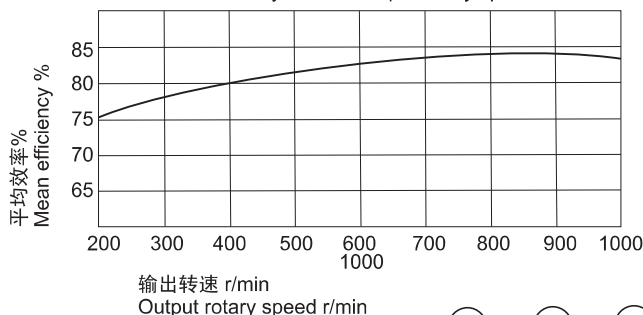
Structure and working principle

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

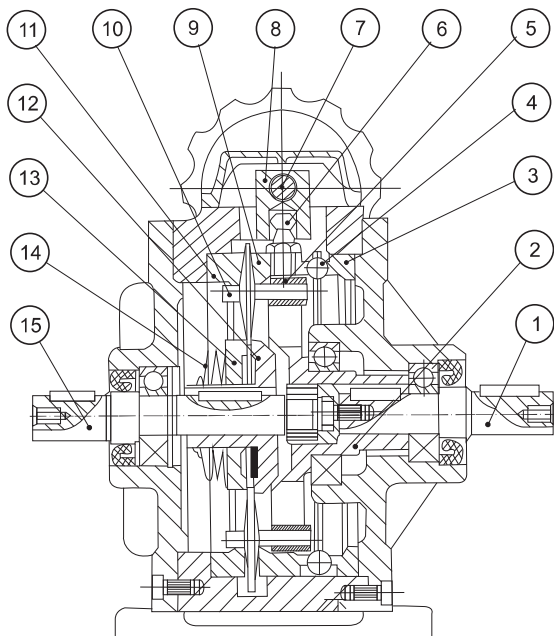
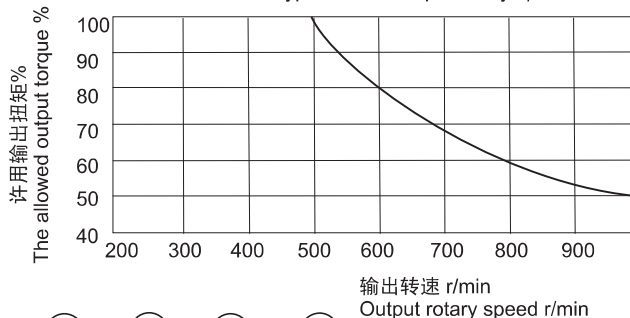
Both solar-wheel with a conicity (12) and press-plate (13) are jammed by a group of butterfly springs (14) and the input shaft (15) is linked with the solar-wheel by a key to form a jammed input device. A group of planetary wheels with a conicity (10), with their inner side clamped in between the jammed 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



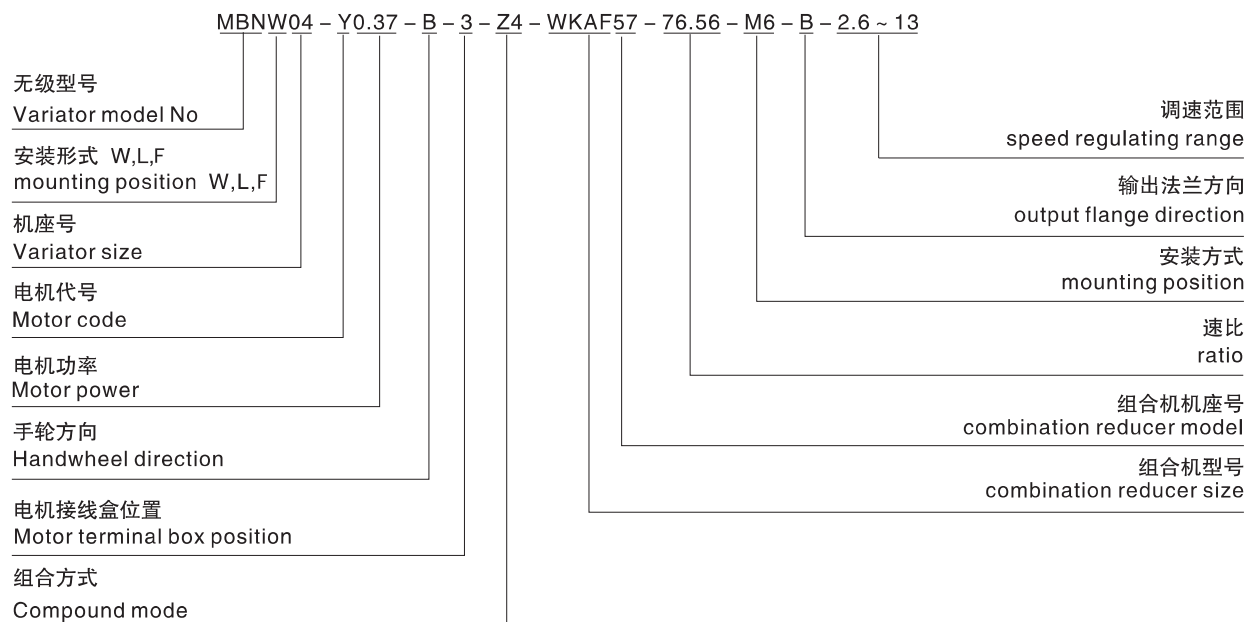
1、输出轴 1.output shaft	2、行星架 2.planetary rack	3、固定平面凸轮 3.fixed surfaceam	4、平面轴承 4.surfacebearing
5、滑块轴承 5.slide-block bearing	6、调速柄 6.speed-regulting hands	7、调速螺杆 7.speed-regulating screw	8、调速滑块 8.speed-regulatin
9、调速凸轮 9.speed-regulating cam	10、行星轮 10.planetary wheel	11、定环 11.fixed ring	12、太阳轮 12.solar-wheel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

2. 润滑油品 Lubricating oil

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

上海承禹机电设备有限公司

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

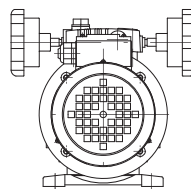
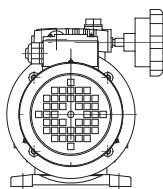
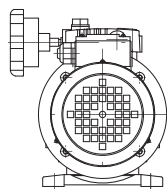
调速手轮方向

Speed regulating handwheel direction

A

B

AB



电机接线盒位置

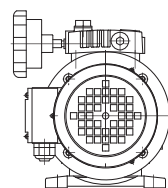
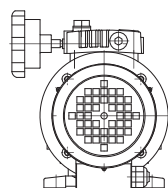
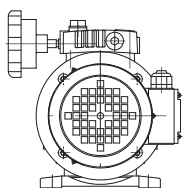
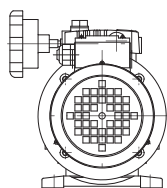
Motor terminal box position

1

2

3

4



Mb无级与单级齿轮组合方式

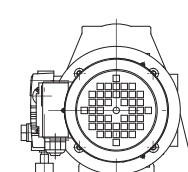
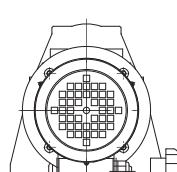
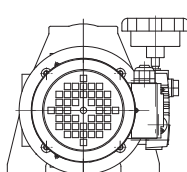
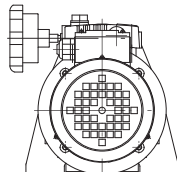
Compound mode of MB variator and single-stage gear

Z1

Z2

Z3

Z4



Mb无级与两级齿轮组合方式

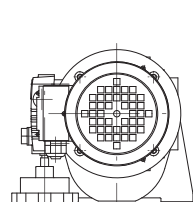
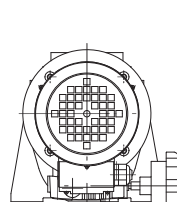
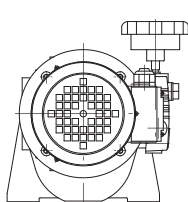
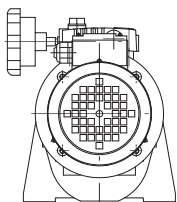
Compound mode of MB variator and double-stage gear

Z1

Z2

Z3

Z4



Mb无级与摆线组合方式

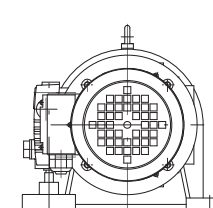
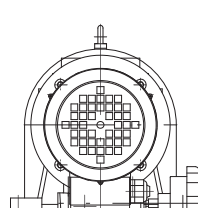
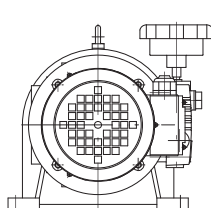
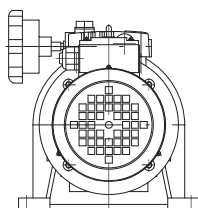
Compound mode of MB variator and cycloid reducer

Z1

Z2

Z3

Z4



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MB无级与NMRV系列组合方式

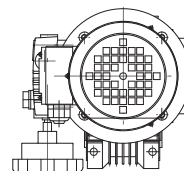
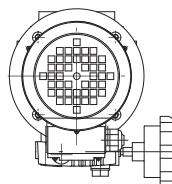
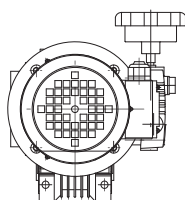
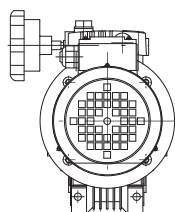
Compound mode of MB variator and NMRV series reducer

Z1

Z2

Z3

Z4



MB无级与WR系列组合方式

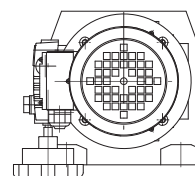
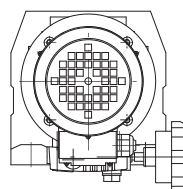
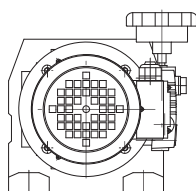
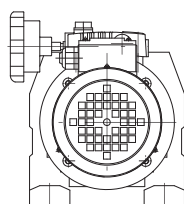
Compound mode of MB variator and WR series reducer

Z1

Z2

Z3

Z4



MB无级与WK系列组合方式

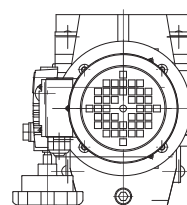
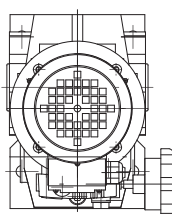
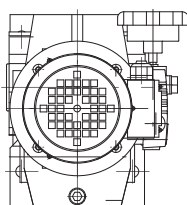
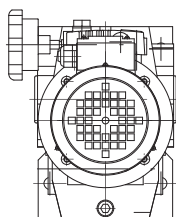
Compound mode of MB variator and WK series reducer

Z1

Z2

Z3

Z4



MB无级与WF系列组合方式

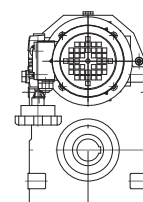
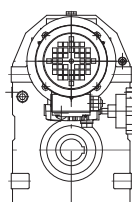
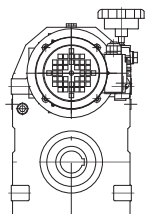
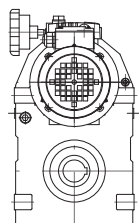
Compound mode of MB variator and WF series reducer

Z1

Z2

Z3

Z4



MB无级与WS系列组合方式

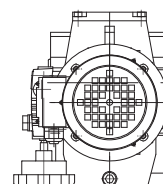
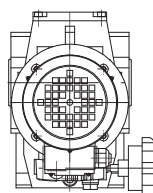
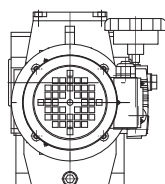
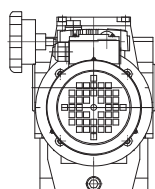
Compound mode of MB variator and WS series reducer

Z1

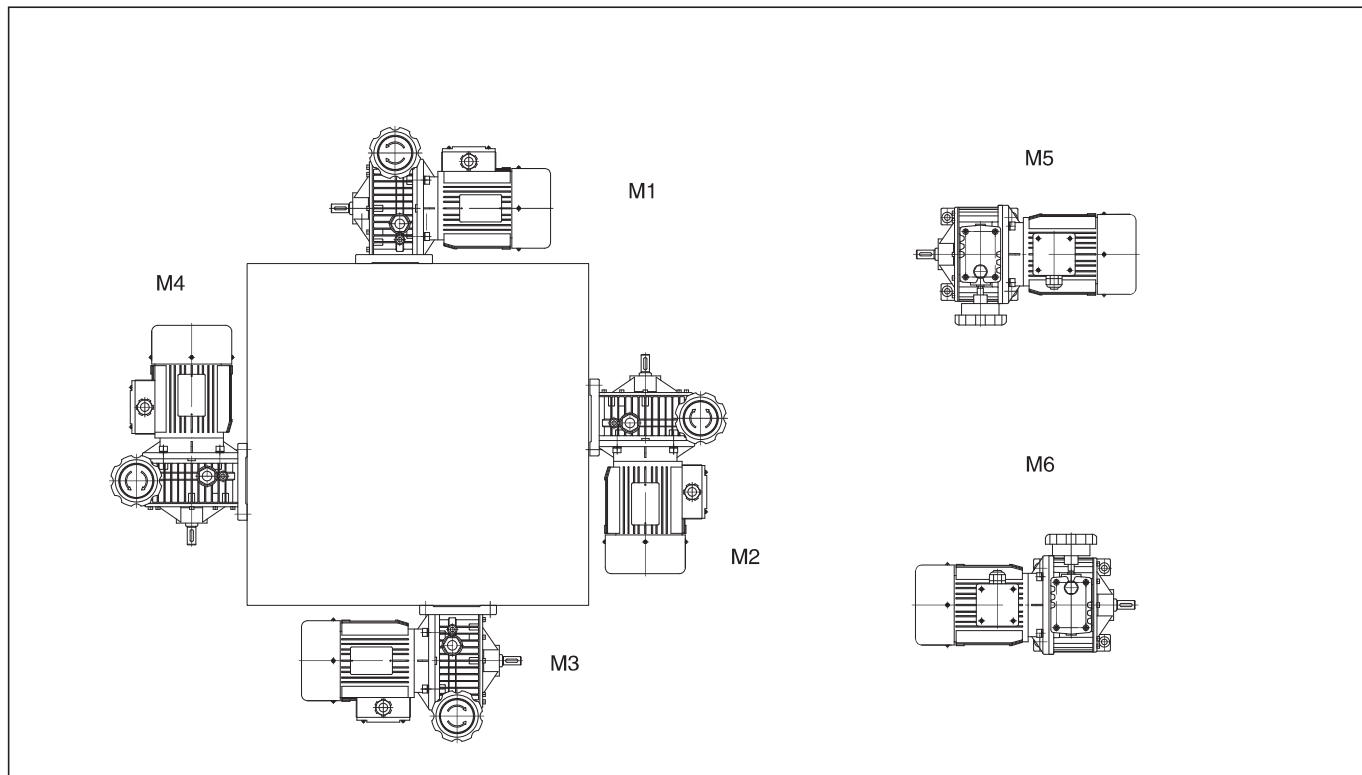
Z2

Z3

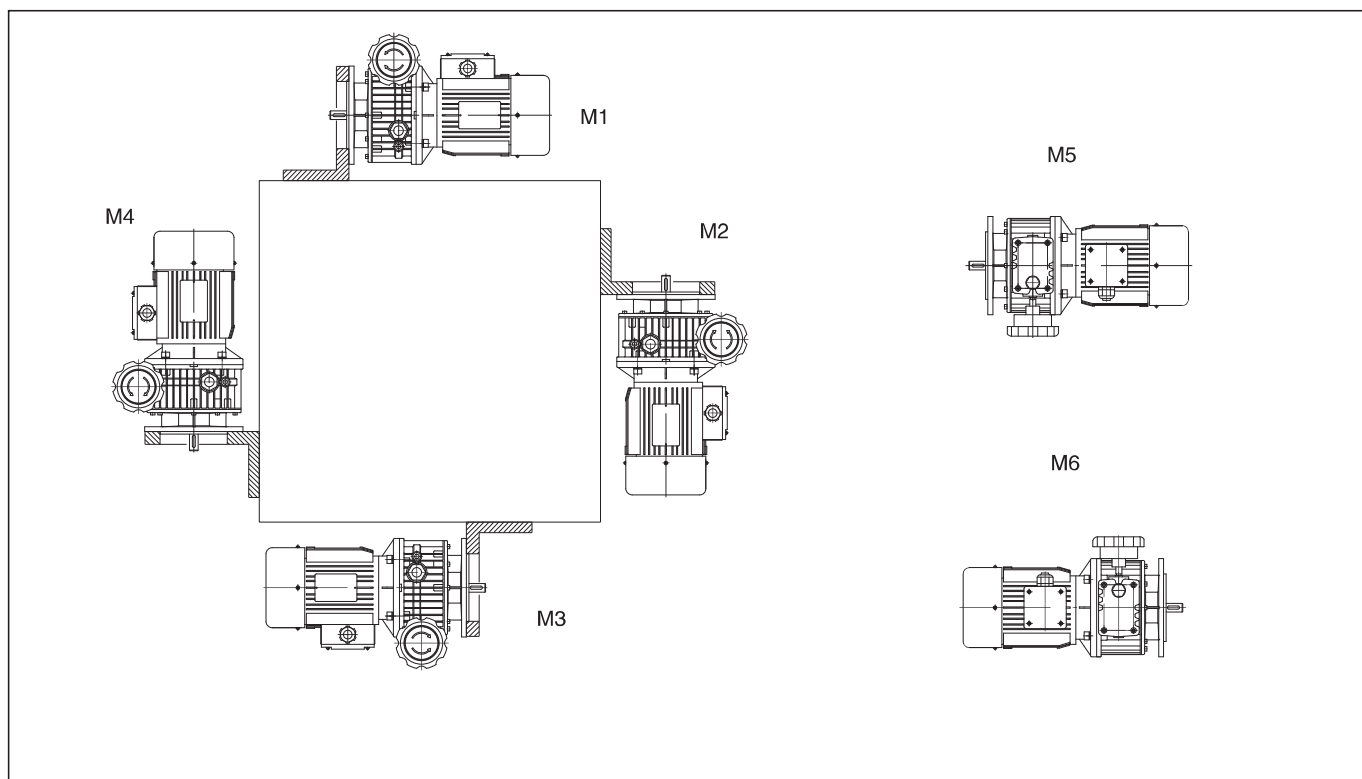
Z4



MBW无级变速机安装方式 Mounting position of MBW variator

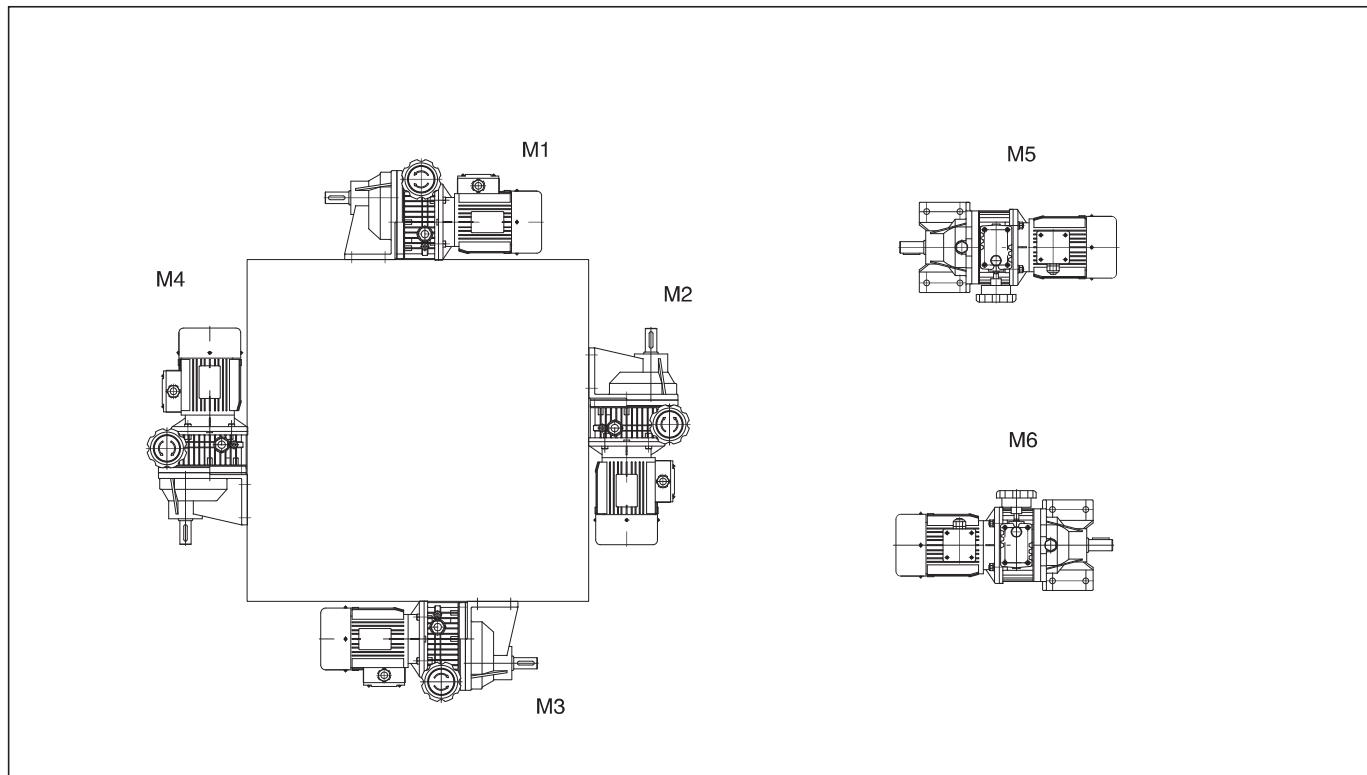


MBF无级变速机安装方式 Mounting position of MBF variator

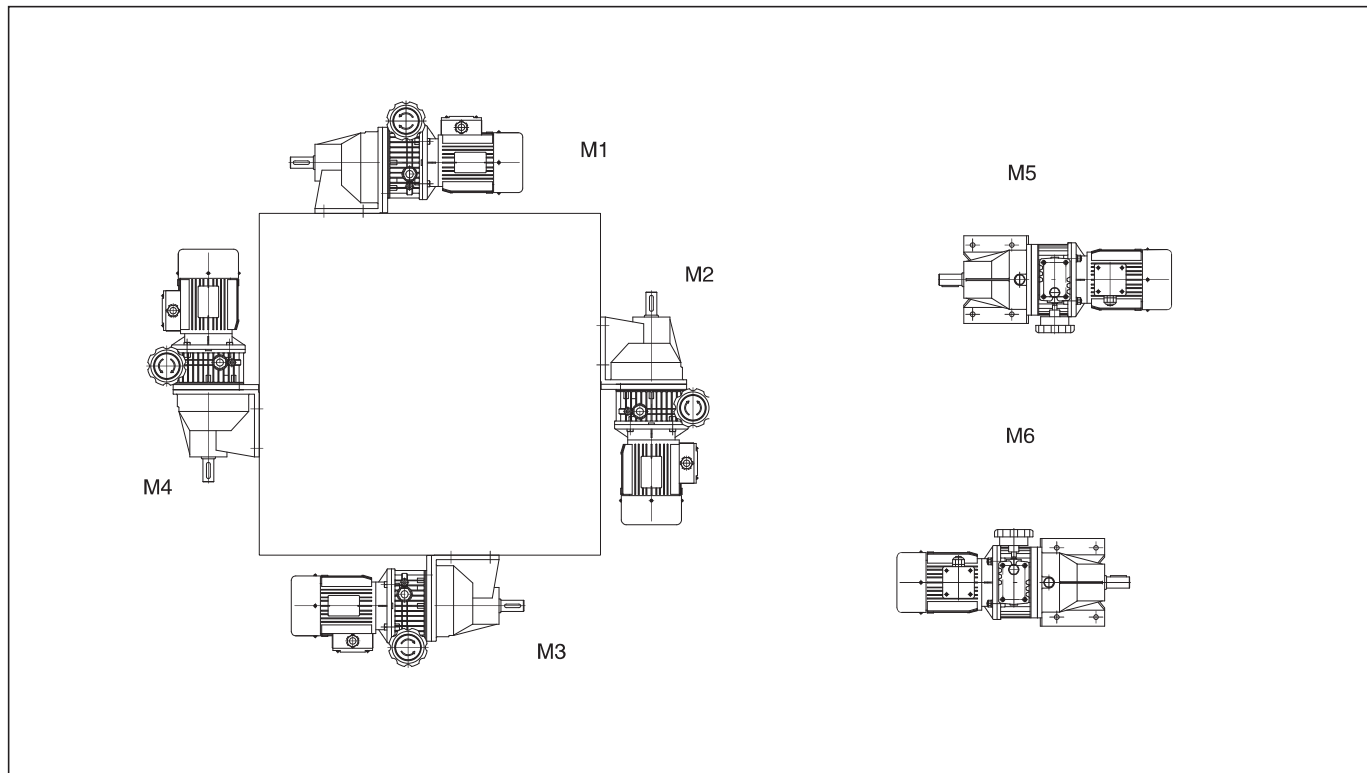


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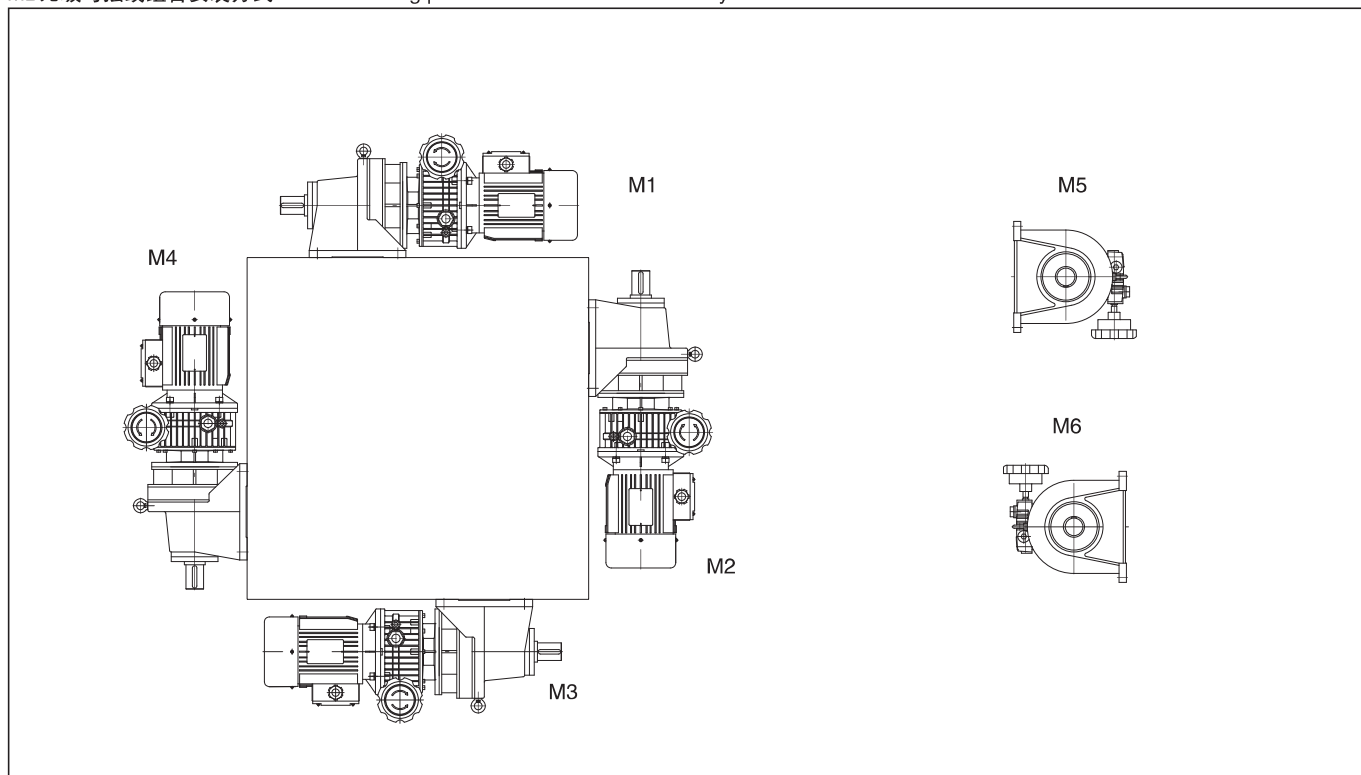
MB无级与单级齿轮组合安装方式 Mounting position of MB variator and single-stage gear



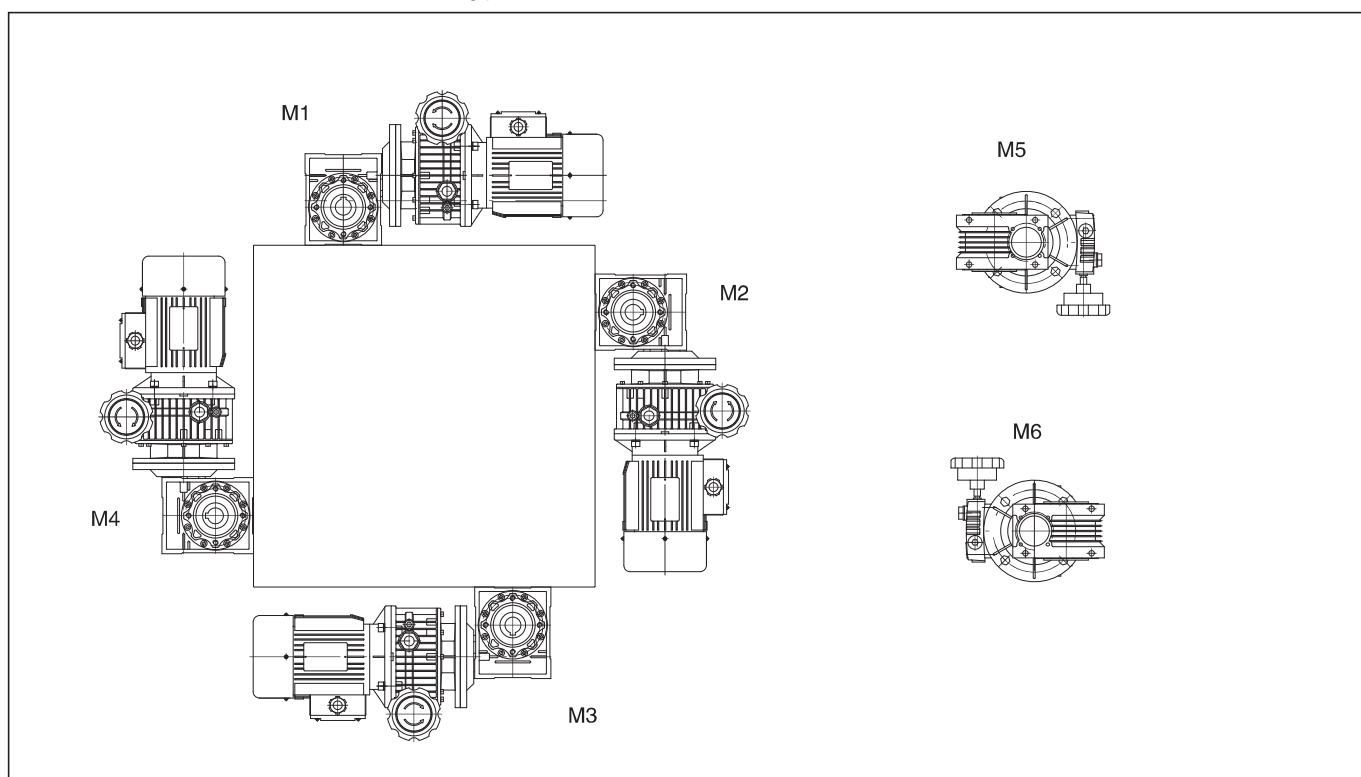
MB无级与两级齿轮组合安装方式 Mounting position of MB variator and double-stage gear



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



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



上海承禹机电设备有限公司

技术参数及选型范围

Technical data and model selection range

变 速 机 型 号 MB、MBN Variator model MB、MBN			02	04	07		15		22	40		55	75
额定输入功率 (KW) Rated input power (KW)			0.18	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5
输入转速 r/min Input speed r/min			1500r/min										
变 速 机 及 其 组 合 型 Variator and combined type	传 动 比 Transmission ratio	变 速 范 围 (r/min) Range of speed variation	许 用 输 出 扭 矩 (N.m) Allowed output torque										
基 本 型 the basic type		200~1000	3~1.5	6~3	10~5	12~6	18~9	24~12	36~18	48~24	64~32	90~45	118~59
变 速 机 带 一 级 齿 轮 减 速 Variator with single stage gear deceleration	2.5	80~400	7.4~3.5	15~7.3	20~9.8	29~15	39~20	59~29	88~44	118~59	157~78	216~108	294~147
	3.3	60~300	10~4.7	20~9.5	32~15.5	38~19	58~28	78~36	118~56	158~79	212~106	298~149	398~199
	5	40~200	15~7	30~15	45~22	60~30	88~43	118~59	176~88	235~118	314~157	441~220	558~279
变 速 机 带 二 级 齿 轮 减 速 Variator with Double stage gear deceleration	8	25~125	20~10	40~20	68~34	80~40	120~60	160~80	243~122	324~162	432~216	605~302	795~398
	11	18~90	28~14	56~28	90~45	108~54	160~80	218~108	324~162	432~216	576~288	810~405	1060~530
	13.3	15~75	34~17	68~34	112~56	136~68	200~100	270~135	408~203	540~270	720~360	1012~506	1325~662
	16.6	12~60	42~21	84~42	140~70	168~84	250~125	334~167	502~251	670~335	892~446	1256~628	1643~822
	20	10~50	50~25	106~53	140~70	140~96	285~142	388~194	602~302	824~412	1110~550	1512~756	2062~1031
配 X2 摆线减速机 Equipped with X2 cycloidal reducer	11	18~90	31~16	65~32	98~44	132~66	150~96						
	17	12~58	49~25	98~49	147~74	150~98	150~						
	23	8~43	65~32	137~67	150~98	150~137							
	29	7~34	83~41	150~84	150~126								
	35	6~28	98~49	150~103									
	43	4.5~23	118~59	150~125									
配 X3 摆线减速机 Equipped with X3 cycloidal reducer	11						196~98	250~130					
	17	12~58	51~25	102~51	170~58	196~98	250~147	250~200					
	23	8~43	69~34	138~69	196~98	250~137	250~196						
	29	7~34	87~43	176~84	250~125	250~172							
	35	6~28	105~52	206~103	250~125	250~206							
	43	4.5~23	129~64	250~125	250~186								
	59	3.5~17	177~88	250~167	250~								
	71	2.8~14	213~106	250~206									
配 X4 摆线减速机 Equipped with X4 cycloidal reducer	11	18~90											
	17	12~58											
	23	8~43				276~138	392~196	420~272					
	29	7~34				352~172	420~253	420~343					
	35	6~28			340~152	412~206	420~304	420~					
	43	4.5~23			372~186	420~250	420~372	420~					
	59	3.5~17		333~167	420~253	420~343	420						
	71	2.8~14	213~106	412~206	420~304	420~							
	87	2.3~11.5	261~130	420~261	420~								

技术参数及选型范围

Technical data and model selection range

变速机型号MB、MBN Variator model MB、MBN			02	04	07		15		22	40		55	75
额定输入功率 (KW) Rated input power (KW)			0.18	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5
输入转速 r/min Input speed r/min			1500r/min										
变速机及其组合型 Variator and combined type	传动比 Transmission ratio	变速范围 (r/min) Range of speed variation	许用输出扭矩 (N.m) Allowed output torque										
配X5摆线减速机 Equipped with X5 cycloidal reducer	11	18~90								529~260	686~343	960~475	1150~652
	17	12~58							588~294	804~402	1078~539	1150~740	1150~1010
	23	8~43						549~274	804~400	1098~544	1150~725	1150~1000	
	29	7~34					510~253	686~343	1010~505	1150~686	1150~921		
	35	6~28					608~304	833~416	1150~613	1150~838	1150~1112		
	43	4.5~23			510~255	745~372	1019~510	1150~745	1150~1019				
	59	3.5~17		506~253	686~343	1009~504	1150~686	1150					
	71	2.8~14		608~304	833~417	1150~613	1150~838						
	87	2.3~11.5		745~372	1019~510	1150~745	1150~						
配X6摆线减速机 Equipped with X6 cycloidal reducer	11	18~90											1300~650
	17	12~58										1490~745	202~1010
	23	8~43									1450~725	2200~1000	2200~1362
	29	7~34								1372~686	1842~725	2200~1117	2200~1725
	35	6~28							1225~613	1676~838	2200~1117	2200~1534	2200~2029
	43	4.5~23							1490~745	2038~1019	2200~1352	2200~1862	
	59	3.5~17						1421~686	2019~1009	2200~1372	2200~1838		
	71	2.8~14					1225~613	1676~838	2200~1230	2200~1676			
	87	2.3~11.5					1490~745	2038~1019	2200~1495	2200~2038			
配X8摆线减速机 Equipped with X8 cycloidal reducer	23	8~43											2724~1362
	29	7~34										2528~1264	3450~1725
	35	6~28									2750~1352	3070~1534	4185~2029
	43	4.5~23								2744~1372	3675~1837	3724~1862	4600~2548
	59	3.5~17							2460~1230	3352~1676	4496~2234	4600~2582	4600~3450
	71	2.8~14							2989~1495	4077~2038	4600~2720	4600~3027	4300~4190
	87	2.3~11.5										4600~3744	4600~
配X9摆线减速机 Equipped with X9 cycloidal reducer	43	4.5~23											5096~2548
	59	3.5~17										5057~2528	6899~3449
	71	2.8~14										6145~3072	7100~4190
	87	2.3~11.5									5439~2720	7100~3744	7100~5096
配X10摆线减速机 Equipped with X10 cycloidal reducer	71	2.8~14											8379~4390
	87	2.3~11.5										7100~3714	10192~5096

上海承禹机电设备有限公司

技术参数及选型范围

Technical data and model selection range

变速机型号MB、MBN Variator model MB、MBN			02	04	07		15		22	40		55	75
额定输入功率 (KW) Rated input power (KW)			0.18	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5
输入转速 r/min Input speed r/min			1500r/min										
变速机及其组合型 Variator and combined type	传动比 Transmission ratio	变速范围 (r/min) Range of speed variation	许用输出扭矩 (N.m) Allowed output torque										
配×32摆线减速机 Equipped with ×32 cycloidal reducer	121	1.6~8		250									
	187	1~5		250									
	289	0.7~3.5		250									
配×42摆线减速机 Equipped with ×42 cycloidal reducer	121	1.6~8		500~300	500~447								
	187	1~5		500~480	500								
	289	0.7~3.5		500	500								
	319	0.6~3		500									
配×53摆线减速机 Equipped with ×53 cycloidal reducer	121	1.6~8		600~300	897~447	1000~610	1000~890	1000					
	187	1~5		960~480	1000~715	1000~975	1000						
	289	0.7~3.5		1000~687	1000	1000							
	319	0.6~3		1000~800									
	473	0.42~2.1		1000									
配×63摆线减速机 Equipped with ×63 cycloidal reducer	121	1.6~8			894~447	1220~610	1780~890	2000~1220					
	187	1~5			1430~715	1950~975	2000~1430	2000~1950					
	289	0.7~3.5			2000~1020	2000~1400	2000	2000					
	319	0.6~3			2000~1190	2000~1920							
	473	0.42~2.1			2000~1700	2000							
	595	0.34~1.68			2000								
配×84摆线减速机 Equipped with ×84 cycloidal reducer	121	1.6~8					1780~890	2440~1220	3580~1790	4500~2440			
	187	1~5					2860~1430	3900~1950	4500~2860	4500~3900			
	289	0.7~3.5					4080~2040	4500~2785	4500~4080	4500			
	319	0.6~3					4500~2380	4500~3250	4500				
	473	0.42~2.1			3400~1700		4500~3400	4500					
	595	0.34~1.68			4260~2130	4500~2320	4500~4250						
	731	0.27~1.37			4500~2610	4500~2900	4500						
	841	0.24~1.18			4500~3030	4500~3555							
	1003	0.2~1			4500~3570	4500~4130							
	1505	0.13~0.66			4500								
配×85摆线减速机 Equipped with ×85 cycloidal reducer	121	1.6~8							3580~1790	4500~2440	4500~3250	4500~4470	
	187	1~5					2860~1430	3900~1950	4500~2860	4500~3900	4500		
	289	0.7~3.5					4080~2040	4500~2785	4500~4080	4500			
	319	0.6~3					4500~2380	4500~3250	4500				
	391	0.51~2.55					4500~2680	4500~3820					
	595	0.34~1.68			4260~2130	4500~2900	4500~3280	4500					
	731	0.27~1.37			4500~2610	4500~3655	4500						
	841	0.24~1.18			4500~3030	4500~4130							
	1003	0.2~1			4500~3570								
	1505	0.13~0.66			4500								

技术参数及选型范围

Technical data and model selection range

变速机型号MB、MBN Variator model MB、MBN			02	04	07		15		22	40		55	75
额定输入功率 (KW) Rated input power (KW)			0.18	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5
输入转速 r/min Input speed r/min			1500r/min										
变速机及其组合型 Variator and combined type	传动比 Transmission ratio	变速范围 (r/min) Range of speed variation	许用输出扭矩 (N.m) Allowed output torque										
配X95摆线减速机 Equipped with X95 cycloidal reducer	121	1.6~8							3580~1790	4800~2440	6500~3250	8940~4470	9000~6100
	187	1~5							5720~2860	7800~3900	9000~5200	9000~7150	
	289	0.7~.35					4080~2040	5570~2785	8160~4080	9000~5570	9000~7425	9000	
	319	0.6~3					4760~2380	6500~3250	9000~4760	9000~6500	9000~8660		
	473	0.42~2.1					6800~3400	9000~4640	9000~6806	9000	9000		
	595	0.34~1.68					8500~4250	9000~5800	9000~8510				
	731	0.27~1.37					9000~5220	9000~7100	9000				
	841	0.24~1.18			6060~3030	8260~4130	9000~6060	9000~8260					
	1003	0.2~1			7140~3570	9000~4870	9000~7150	9000					
	1505	0.13~0.66			9000~5415	9000~7380	9000						
配X106摆线减速机 Equipped with X106 cycloidal reducer	121	1.6~8										8970~4470	12000~6100
	187	1~5							5720~2860	7800~3900	10400~5200	12000~7150	12000~9750
	289	0.7~3.5							8160~4080	11140~5570	12000~7425	12000~10210	12000
	319	0.6~3							9520~4760	12000~6500	12000~8660	12000	
	473	0.42~2.1							12000~6806	12000~9280	12000		
	595	0.34~1.68					8500~4250	1160~5800	12000~8510	12000			
	731	0.27~1.37					10440~5220	12000~7110	12000~10435				
	841	0.24~1.18					12000~6060	12000~8260	12000				
	1003	0.2~1					12000~7050	12000~9745					
	1501	0.13~0.66			10830~5415	12000~7380	12000	12000					

国内外各型无级变速机对照表

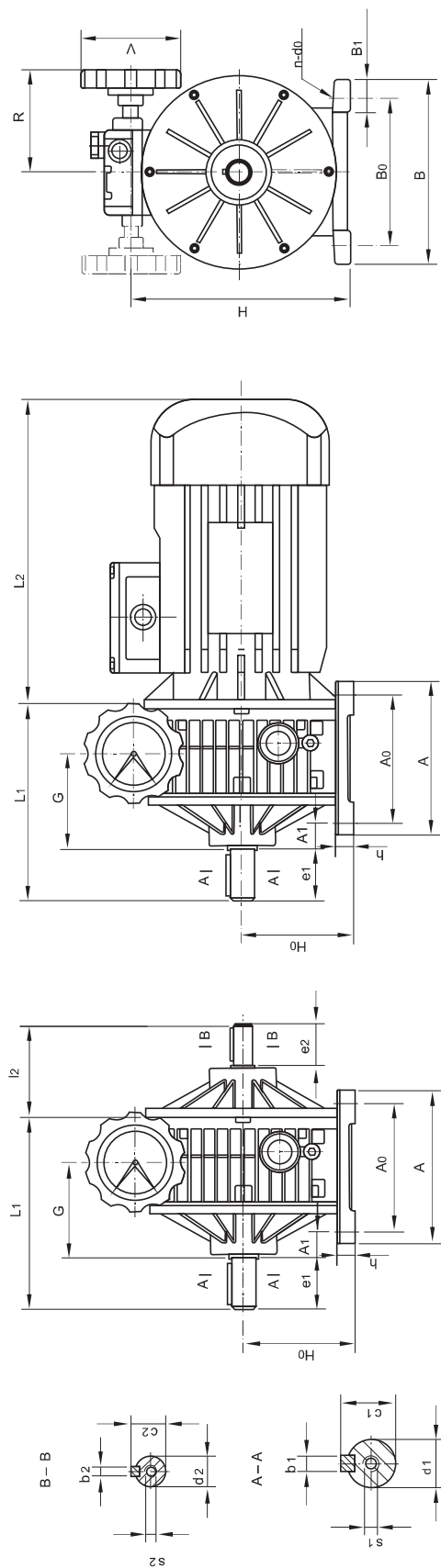
Comparative table of variators model domestically

本公司 This company	MBN02	MBN04	MBN07					
				MB 15	MB 22	MB 40	MB 55	MB 75
日本 Japan	D002	D004	D007	D015	D022	D037	D055	D075
德国 Germany	02	03	04	05	06	07	08	08
意大利 Italy	TK/02	TK/05	TK/10	TK/20	TK/30	TK/40	TK/100	TK/100
其他 Others	JWB-X0.25	JWB-X0.37	JWB-X0.75	JWB-X1.5	JWB-X2.2	JWB-X4	JWB-X5.5	JWB-X7.5
	UD003	UD004	UD007	UD015				

国内各型无级摆线减速机对照表

Comparative table of various cycloidal reducer model domestically

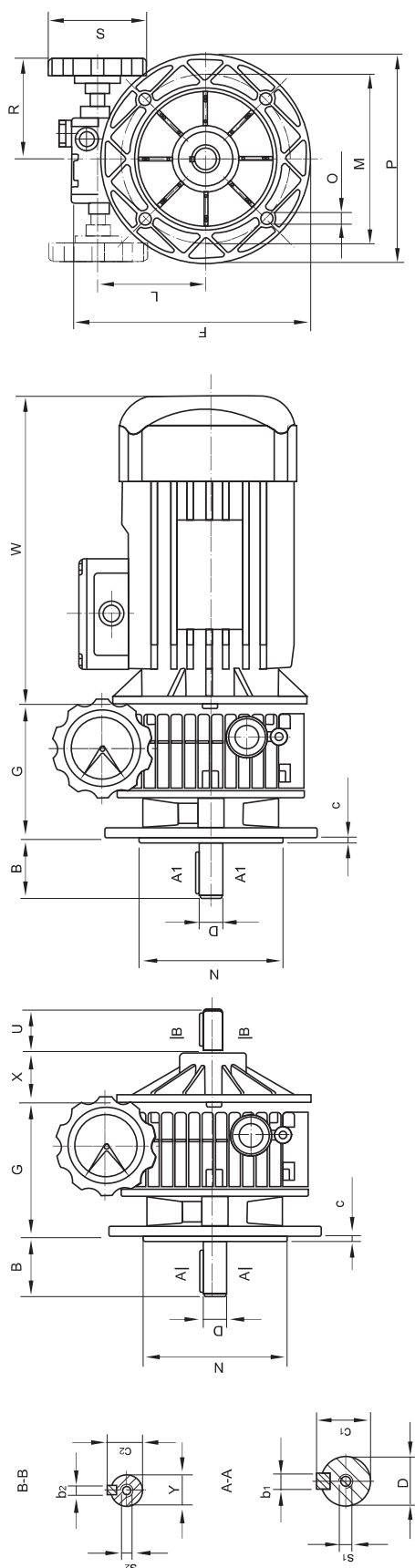
天津 Tianjin	X2	X3	X4	X5	X6	X7	X8	X9	X10
江门 Jiangmen	XJ0	XJ1	XJ2	XJ3	XJ4		XJ5	XJ6	
化工部 Ministry of Chemical Industry	B1	B1	B2	B3	B4		B5	B5	
机械部 Ministry of Machine-Building Industry	B15	B15	B18	B22	B27		B33	B39	B45



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	安装尺寸 Installation dimension						输出轴 Output shaft						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	l2	s2	A	h	G	B	B1	H	R	V	L1	L2
02	75	105	13.5	110	4	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	120		9	14js6	5	16	30		14js6	5	16	30	79		125	15	73	150	27	179	110		140	245
07	106	125	28	160	4	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

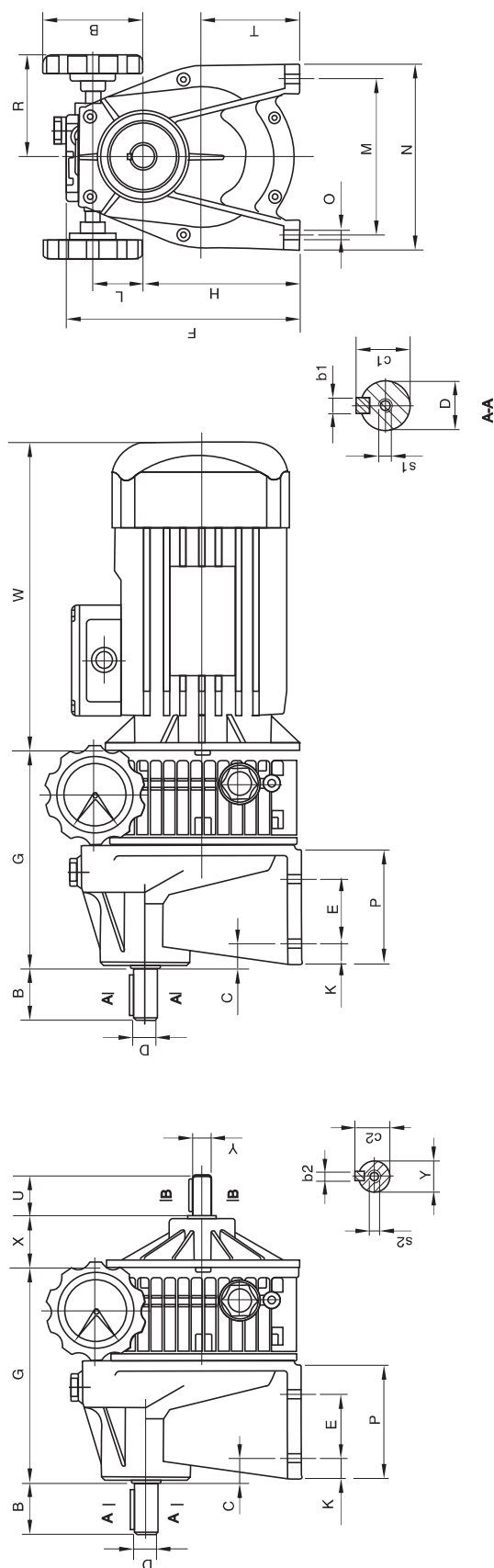
02、04、07可供铝合金箱体
02、04、07 available Al-alloy box



MBN系列基本型法兰立式安装尺寸

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	s2
02	23	3.5	11	181	112.5	11	77	112	95	9	140	110	85	23	51	227	4	12.5	M6	4	12.5	M6
	30		14	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

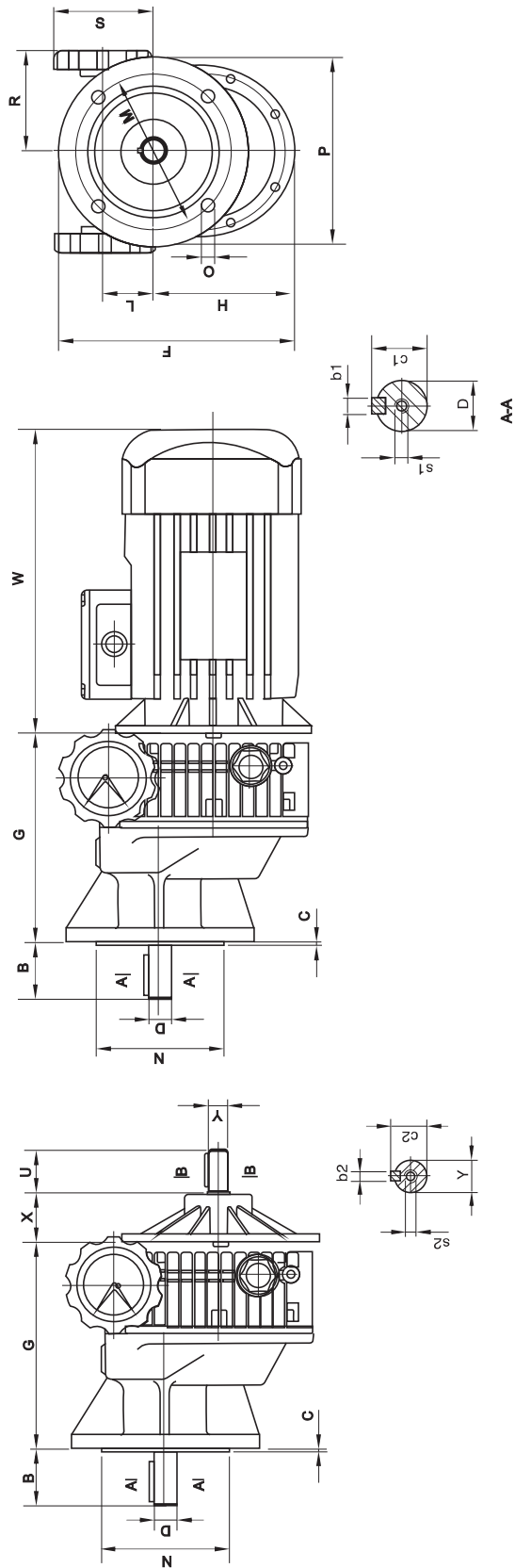
02、04、07可供铝合金箱体
02、04、07 available Al-alloy box



MBN系列-C单级卧式齿轮减速机组合外形及安装尺寸

机座号 Frame size		外形及安装尺寸 Overall and installation dimensions																									
		B	C	D (js6)	E	F	G	H	Y (js6)	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

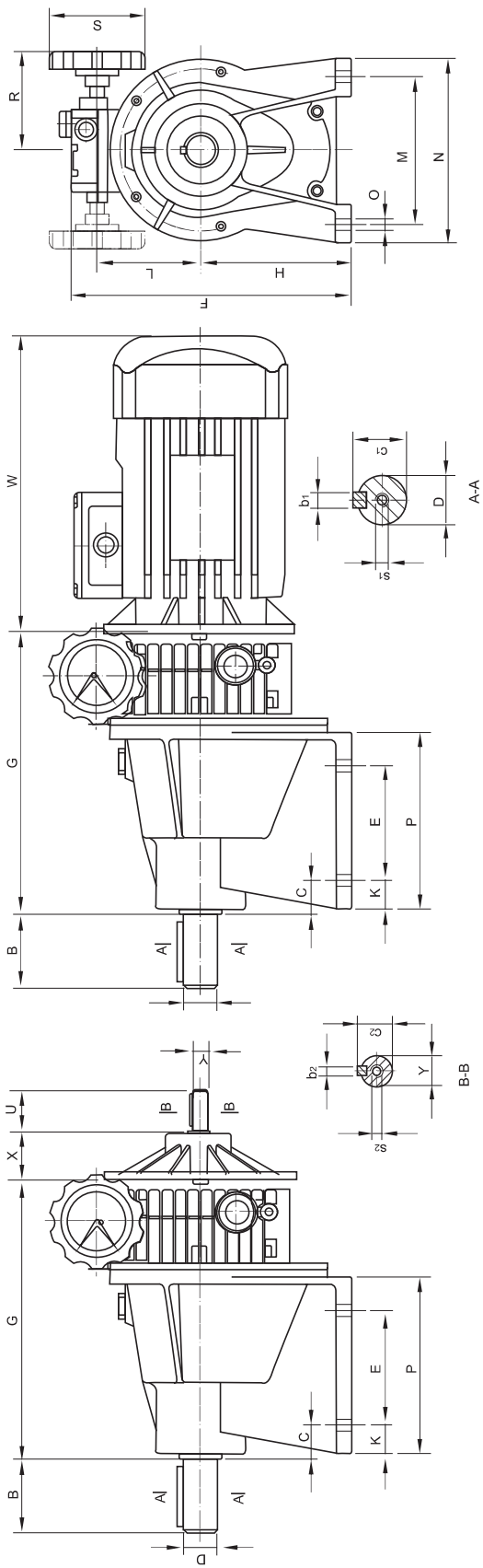
02、04、07可供铝合金箱体
02、04、07 available Al-alloy box



MBN系列-C单级立式齿轮减速机组外形及安装尺寸

机座号 Frame size	外形及安装尺寸 Overall and installation dimensions																						
	B	C	D (js6)	F	G	H	Y (js6)	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

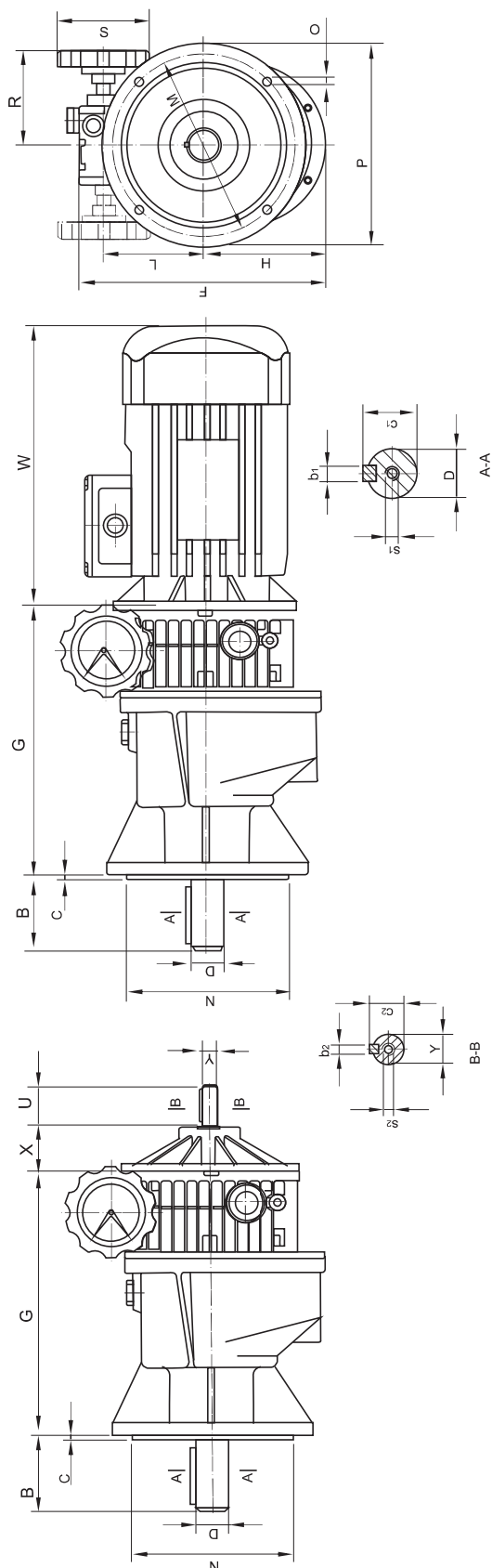
02、04、07可供铝合金箱体
02、04、07 available Al-alloy box



MB、MBN系列-2C二级立式齿轮减速机组合外形及安装尺寸
Overall and installation dimensionsof 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)	E	F	G	H	Y (js6)	L	M	N	O	P	R	S	U	X	W	K	b1	c1	s1	b2	c2	s2
MBN02-2C	40	27	19	70	206	226	105	11	77	105	130	9	120	110	85	23	51	227	21	6	21.5	M6	4	12.5	M6
MBN04-2C	55	25	28	85	224	239	110	14	90	150	190	10.5	140	110	85	30	49	245	19	8	31	M8	5	16	M6
MBN07-2C	65	26	32	106	281	276	152	19	106	174	212	13	161	115	110	40	70	250	23	10	35	M10	6	21.5	M6
MB15-2C	70	27	38	130		332	172	24	121	200	250	14	185	135	110	40	51	285	25	10	41	M10	8	27	M8
MB22-2C	110	43	55	180		447	235	24	150	250	320	18	266	166	110	50	69	320	34	16	59	M12	8	31	M8
MB40-2C	110	43	55	180		447	235	24	150	250	320	18	266	166	110	50	69	340	34	16	59	M12	8	31	M8
MB55-2C	140	48	70	250		565	280	38	192	300	380	21	344	182	110	60	49	395	38	20	74.5	M16	10	41	M10
MB75-2C	140	48	70	250		565	280	38	192	300	380	21	344	182	110	60	49	435	38	20	74.5	M16	10	41	M10

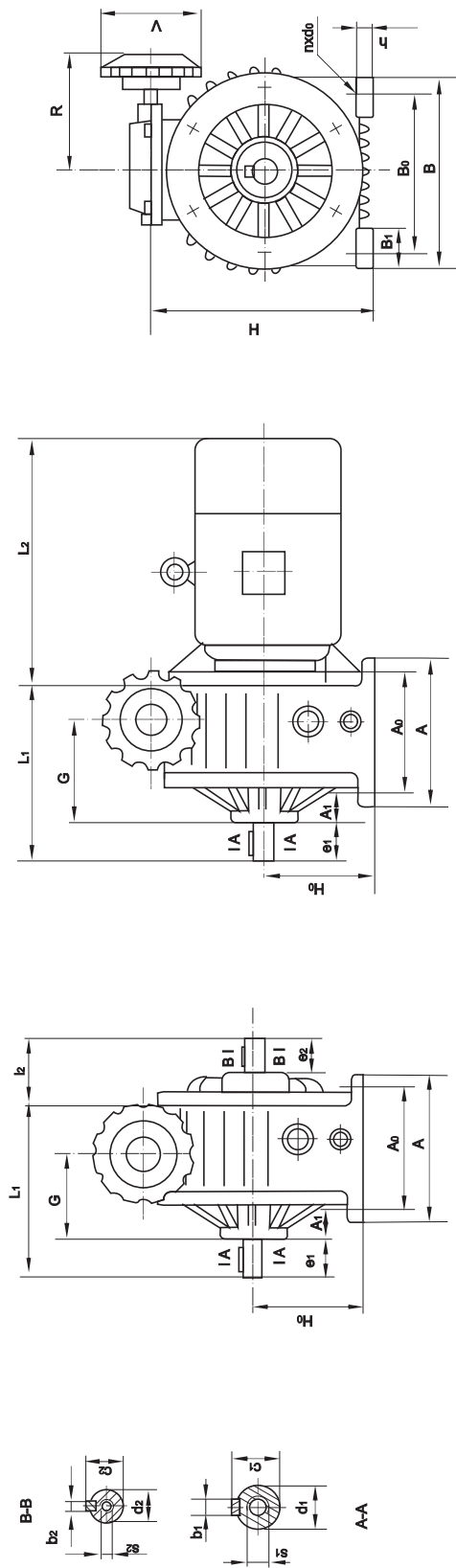
02、04、07可供铝合金箱体
02、04、07 available Al-alloy box



MB、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 dimensionsof horizontal combination to MB,MBN-2C combines double-stage gear reducer

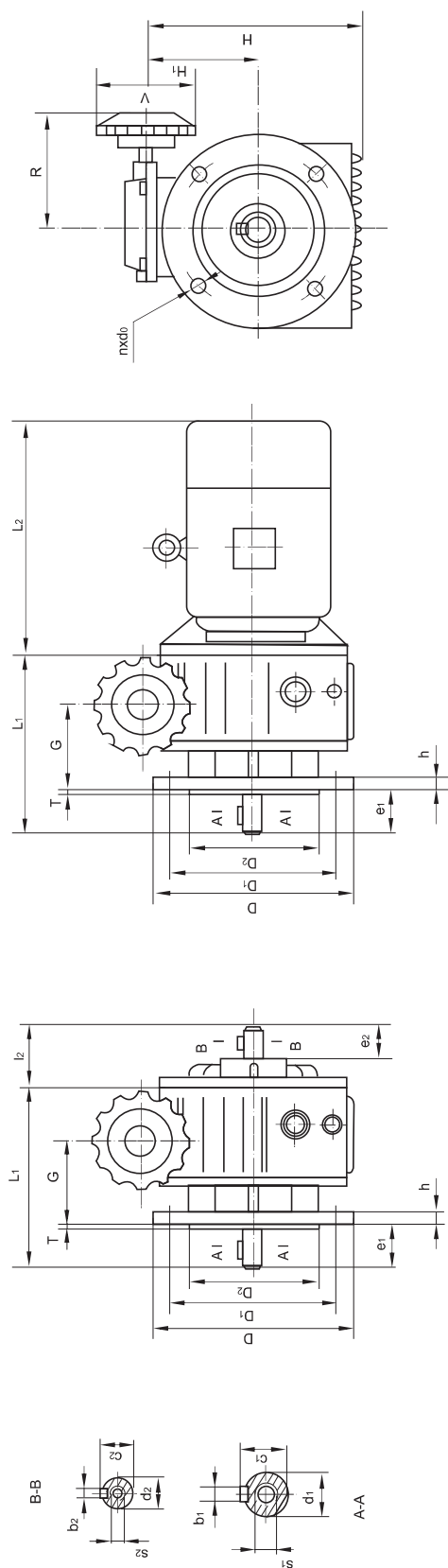
机座号 Frame size	外形及安装尺寸 Overall and installation dimensions																		
	B	C	D (js6)	G	Y (js6)	L	M	N	O	P	R	S	U	X	W	b1	c1	s1	b2
MBN02-2C	40	3	19	226	11	77	115	95	9	140	110	85	23	51	227	6	21.5	M6	4
MBN04-2C	55	4	28	239	14	90	130	110	10.5	160	110	85	30	49	245	8	31	M8	5
MBN07-2C	65	4	32		19	106	165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

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



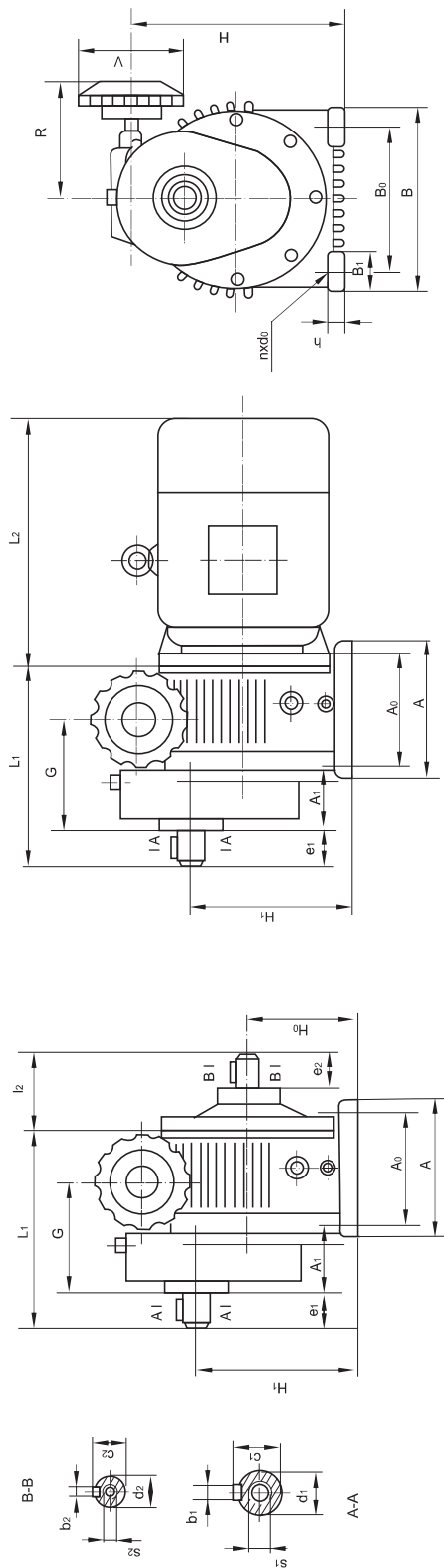
MB 系列基本型甲板卧式外形及安装尺寸
Overall and installation dimensions of horizontal installation to MB basic series

机座号 Frame Size	中心高 Central height	安装尺寸 Installation dimensions					输出轴 Output shaft					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
15	125	140	50	180	4	12	25js6	8	28	50	M8	24js6	8	27	40	91	M8	165	18	107	230	50	246	135	110	223	285
22	150	230	25	245		14	30js6		33	60					50	119		270	25	131	300	55	300	168		268	320
40																											340
55	200	250	33	315	4	18	35js6	10	38	70	M10	32js6	10	35	60	109	M10	290	30	131	365	70	392	194		319	395
75																										435	



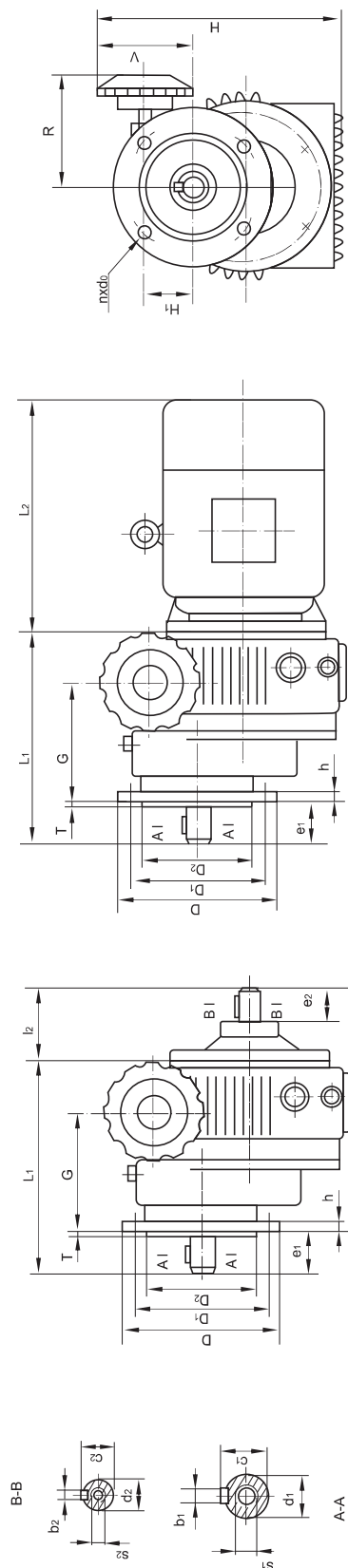
MB 系列基本法兰式外形及安装尺寸
Overall and installation dimensions of vertical installation to MB basic series

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
	215	180	4	4	15	25js6	8	28	50	M8	24js6	8	27	40	91	M8	250	16	107	246	121	135	110	223	285
265	230	30js6				33		60	50					119	300		131		300	150	166	268		320	
40	22																								
	40																								
55																									
75																									



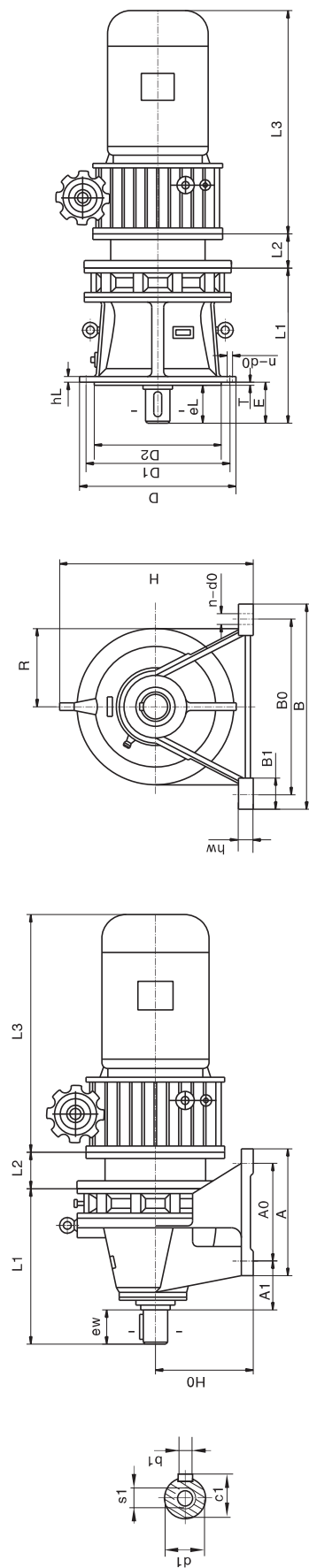
MB 系列一级齿轮型甲板卧式外形及安装尺寸
Overall and installation dimensions of horizontal combination to MB combines single-stage gear reducer

机座号 Frame Size	中心高 Central height		安装尺寸 Installation dimensions					输出轴 Output shaft					输入轴 Input shaft						外形尺寸 Overall dimensions									
	H0	H1	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
15	125	190	140	78	180	4	12	30js6	8	33	45	M8	24js6	8	27	40	91	M8	165	18	133	230	50	246	135	110	245	285
22	150	230	230	58	245		14	40k6	12	43	60	M10				50	119		270	25	170	300	55	300	168		320	340
40																												
55	200	320	250	157	315	4	18	50k6	14	53.5	82	32js6	10	35	60	109	M10		290	30	255	365	70	392	194		455	395
75																												



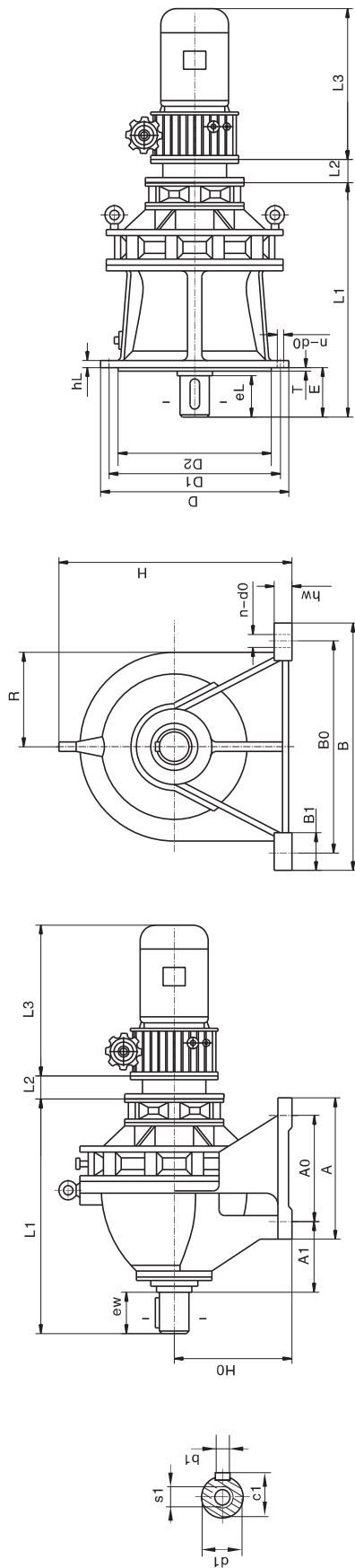
MB 系列带一级齿轮型法兰式外形及安装尺寸
Overall and installation dimensions of vertical combination to MB combines single-stage gear reducer

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	l2	s2	D	h	G	H	H1	R	V	L1	L2
	15	165	130	4	4	15	30js6	8	33	45	M8	24js6	8	27	40	91	M8	200	16	155	246	56	135	110	266
22	215	180	40js6				12	43	60	M10					50	119		250		200	300	70	166		337
40	265	230	5	5	15	50js6	14	53.5	82	32js6	10	35	60	109	M10	300	20	255	392	72	194	455	395	435	
55																									
75																									



MB/MBN无级变速机配单级摆线减速机外形及安装尺寸
Overall and installation dimensions of MB, MBN variators equipped with single-stage cycloidal reducer

机座号 Frame Size	中心高 Central height	安装尺寸 (W) Installation dimensions(W)					安装尺寸 (L) Installation dimensions(L)						输出轴 Output shaft						外型尺寸 Overall dimensions									
		A1	A0	B0	n	d0	D1	D2	E	T	n	d0	d1	b1	c1	ew	eL	s1	A	hw	h1	B	H	B1	D	L1	L2	L3
X2	100	66	90	180	4	12	160	130	42	3	6	12	25h6	8	28	35	35	M8	120	15	12	210	175	45	180	157	按所配无级 变速机决定 Up to the equipped motor	
X3	140	96	100	250		16	200	170	50	4			35h6	10	38	35	45		150	20	15	290	278	55	230	193		
X4	150	95	145	290		18	230	200	79	4			45h6	14	48.5	74	63	M10	195	22	260	25	20	410	356	65		
X5	160	115	150	370	310		270	92	4	55h6	16	59	91	79	260	25	20		410	356	340	311						
X6	200	36	275	380	6	22	360	316	92	5	8	16	65h6	18	69	89	80	M12	335	30	22	430	425	75	400	354		
X8	250	35	380	480		26	450	400	112	6	18	90h6	25	95	120	110	M16	440	35	30	530	529	490	447				
X9	290	44	480	560			520	455	170	8	22	100h6	28	106	142	129	M20	560	40	35	620	614	120	580	552			
X10	325	80	500	630	30	590	520	174	10	110h6	116	150		140	M24	600	45	40	690	706	650	612						



MB/MBN无级变速机配双级摆线减速机外形及安装尺寸

机座号 Frame Size	中心高 Central height	安装尺寸 (W) Installation dimensions(W)					安装尺寸 (L) Installation dimensions(L)					输出轴 Output shaft					外型尺寸 Overall dimensions									
		A1	A0	B0	n	d0	D1	D2	E	T	n	d0	d1	b1	c1	ew	eL	s1	A	hw	hL	B	H	B1	D	L1
X32	140	96	100	250	16	200	170	50	4	6	12	35h6	10	38	55	45	M8	150	20	15	290	278	55	230	按所配无级 变速机决定 Up to the equipped motor	
X42	150	95	145	290		230	200	79				45h6	14	48.5	74	63	M10	195	22		330	309	65	260		318
X53	160	115	150	370		18	310	270				92	55h6	16	59	91	79	M10	260	25	410	356	75	340		399
X63	200	36	275	380	4	22	360	316	92	5	16	65h6	18	69	89	80	M12	335	30	22	430	425	490	560		Up to the equipped motor
X84 X85	250	35	380	480		26	450	400	112	6		8	90h6	25	95	120	110	M16	440	35	30	530		529	490	
X95	290	44	480	560			6	520	455	170			8	12	100h6	28	106	142	129	M20	560	40	35	620	614	
X106	325	80	500	630	30	590		520	174	10	22	110h6	116		150		140	M24	600	45	40	690	706	650	760	

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号)。

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℃, 当跑合运转60-80小时后, 温升逐渐降低, 此后, 温度高于环境温度20℃, 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 too big, it means wasting resource, if the power and torque is known, we should estimate the character of load, so choose the accurate safe factor "K" to combination.

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

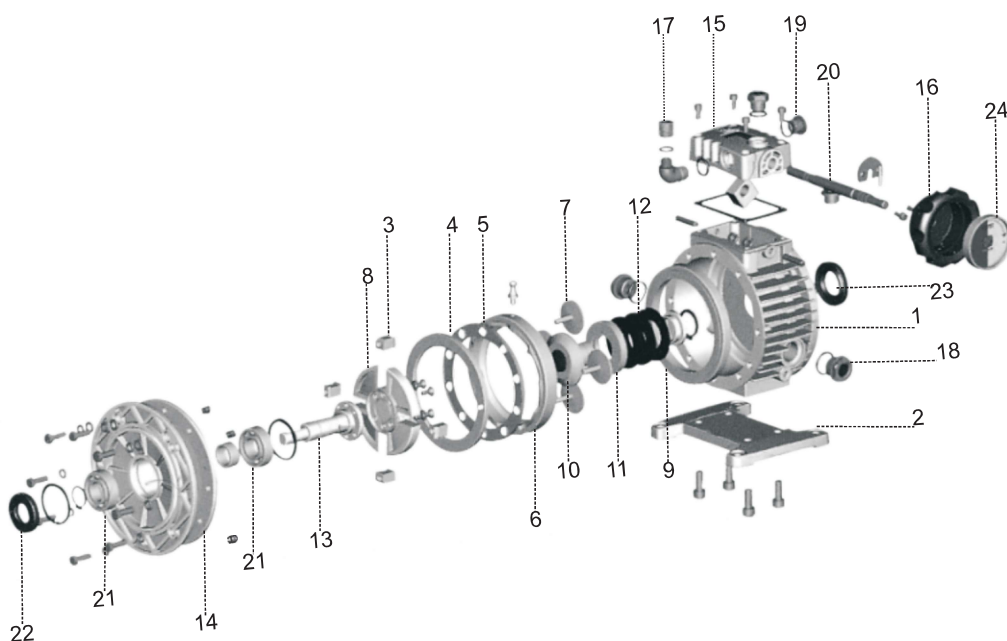
Choose safe factor "K" accurately to count the combination power.

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 reduced.

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	通气螺塞
2	调速盖
3	调速丝杆
4	调速手柄
5	油封
6	油镜
7	箱体
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	形密封圈
21	输出法兰
22	轴承
23	油封

No.	Name
1	Breather vent
2	Speed control cover
3	speed control lead screw
4	speed control handwheel
5	oil seal
6	oil mirror
7	tank
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	o-type seal ring
21	output flange
22	bearing
23	oil seal

上海承禹机电设备有限公司

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、在签定合同前, 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, 我分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, 常用转速应选择变速范围中间值。
b、订货时请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 _____. Expeded 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 compant, 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 calue 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.