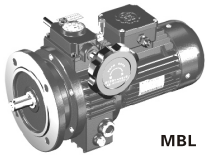
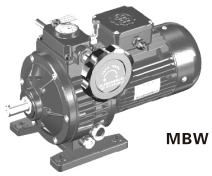
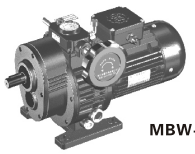
MB系列


MBL


MBW


MBW-C


MBL-C

无级变速机的特点 Features of the Stepless variator

● 高强度：在加冲击负载或机器逆转时，本机能可靠、精确地传动，无后座力，并有足够的强度。
● 性能稳定：本机的传动部件都经过严格的热处理，并经精密加工；接触和润滑良好，运行平稳、噪声低。
● 变速范围大：变整范围R=5，即输出速比可在1:1.45至1:7.25之间任意变化。
● 调速范围大：调速精度为0.5~1转，这是目前同类无级变速机中仅有的。
● 同轴结构：输入入轴、输出轴同向旋转，均无附加的轴向力，因此使用寿命长。
● 组合能力强：本机能与摆线针轮减速机、齿轮减增速机、蜗轮减速机直联式组合，因此具有良好的适应性。

● High strength: This machine can transmit reliably and accruately without the recoil, but has the enough intensity while ending impact load or running backspin.
● Steady performance: The transmitting parts are good in touch and lubricate, run on an even keel with slow noise as they had been done thes trict heat treatment and the exact processing.
● Big shift scope: Shift scope R=5, that means the output gear ratio can change discretionarily between 1:1.45 and 1:7.25.
● Big timing scope: The timing precision is 0.5~1 turn and this only exits in the congeneric Stepless variator at present.
● Coaxial structure: The input and output shafts shafts rotate at the same direction with no additionalaxial force makes the longer using using life.
● Better combination ability: This machine can be combined of flange thpe with the cycloid pin wheel reducer, speed-increasing gear, worm wheel reducer, so it has good flexibility.

MB

工作原理与结构 Working principle and structure

MB系列行星摩擦式无级变速机主要是由压紧的主动装置、摩擦传动机构、调速控制机构组成。
带锥度的主动轮(20)和压盘(11)被一组螺形弹簧(10)压紧，输入轴与主动轮用键联接，而组成压紧的主动装置。
一组带锥度的行星摩擦轮(12)内侧夹在压紧的主动轮和压盘之间，外侧夹在固定环(9)和调速凸轮(15)之间而组成摩擦副；当压紧的主动装置运转时，摩擦轮就做纯滚动，由于固定环和调速凸轮不动，因此，摩擦轮在自转的同时作公转运动，通过行星摩擦轮的中心轴及滑块轴承(13)而带动行星架(14)转动。
转动手轮(3)带动调速凸轮改变角度和方向位置的同时，调速凸轮的端面曲线经平面弹子夹(17)和固定凸轮(18)的端面曲线作用，使调速凸轮产生轴向移动，从而均匀地改变了调速凸轮和固定环之间的距离，使行星摩擦轮产生径向移动，最后均匀地改变了行星摩擦轮与主动轮、压盘及固定环、调速凸轮摩擦处的工作半径，实现稳定的无级变速。

The planet frictional type stepless variator of MB series is mainly composed of impacted initiativeequipment, frictional transmission mechanism, timing control mechanism.
The taper driver (20) and platen (11) are impacted by a set of disk spring (10), the input shaft and initiative wheel are connected by keys, and then a impacted initiative equipment is buildup.
The inner side of a set of taper planetary frictional wheel (12) is nipped between the impacted driver and the platen, the outer side is nipped between the locking ring (9) and timing cam (15), and then the friction fit is buildup. the frictional wheel will do the pure roll while the impacted initative equipment running, the immovable locking ring and timing cam make the frictional wheel doing the revolution while doing the rotation, the center shaft and the smooth piece bearing of planetary frictional wheel drive the planetary rack (14) to do the turn.
The hand-wheel of rotation (3) drive the timing cam to change the angle direction, at the same time, the facing curve of the plane marble nip (17) and the immobile cam (18) effect the facing curve of the timing cam, and then to change the radius of friction space between the planetary wheel and the driver, platen, immobile ring, timing cam equally, and make the steady Stepless shift become true.

型号规格表示方法举例 Expression examples of the model specs

基型：MB W 07 Y 0.75

- 0.75 — 电机功率(不带电机省略) Motor power (without motor ellipsis)
- Y — 电机代号(不带电机省略) Motor Code (without motor ellipsis)
- 07 — 机型号 Code of Modeis
- W — 结构安装形式(卧式) Structure Installation Form (horizontal)
- MB — 行星摩擦式无级变速机 Planetary Frictional Stepless gear reduce

基型带级齿轮 Primitive Form Band Arterial Gear：MB L 40 Y 4 2C C 5

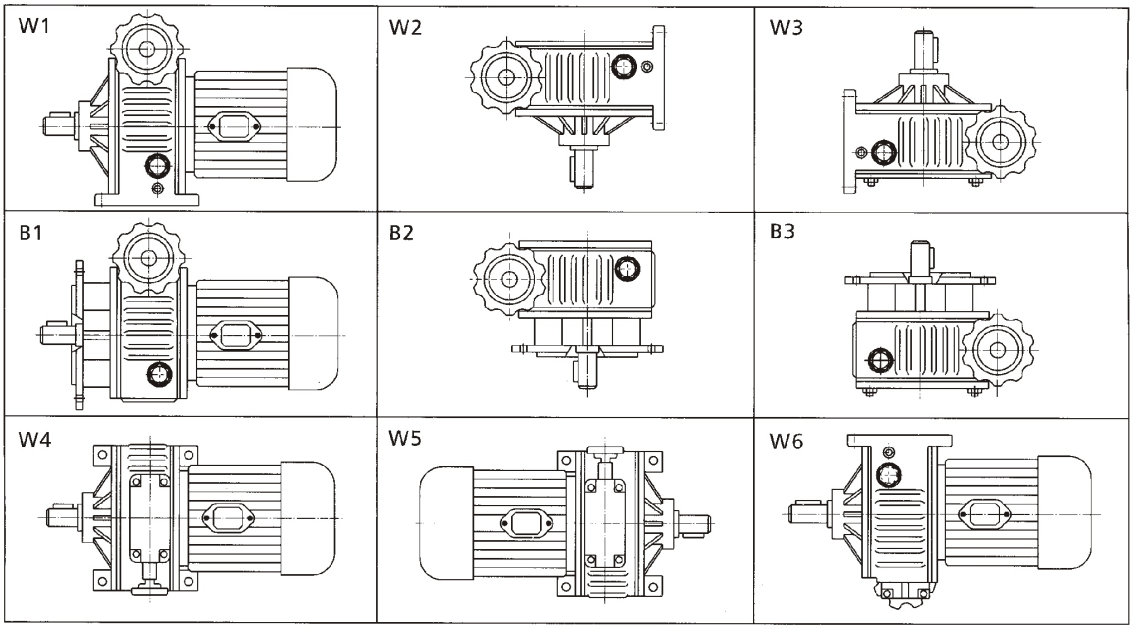
- MB — 行星摩擦式无级变速机 Planetary Frictional Stepless gear reduce
- L — 结构安装形式(立式) Structure Installation Form (vertical)
- 40 — 机型号 Code of Modeis
- Y — 电机代号(不带电机省略) Motor Code (without motor ellipsis)
- 4 — 电机功率(不带电机省略) Motor Power (without motor ellipsis)
- 2C — 2C: 二级齿轮减速 2C: Double-stage gear deceleration
- C — C: 一级齿轮减速 C: Single-stage gear deceleration
- 5 — 传动比 Transmission Ratio

变速机型号 Veriater medel MB			02	04	07		15		22	40		55	75
额定输入功率 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 Input speed (r/min)			1500										
变速机及组合型 Variator and combined type	传动比 Transmission ratio	变速范围 (r/min) Sanpe of speed	许用输出扭矩 (N・M) Allowed output torque										
调速范围(r/min) Timing Scope (r/min)	–	200～1000	3～1.5	6～3	10～5	12～6	18～9	24～12	36～18	48～24	64～32	90～45	120～60
	1/2	400～2000					8.4～4.2	11～5.5	17～8.6	22.8～11.4	30～15	42.8～21.4	57～28.5
	2/3	300～1500					11～5.6	15～7.5	22.8～11.4	30～15	40～20	57～28.5	75～38
	2	100～500	5.7～2.9	11～5.7	19～9.5	23～11.5	34～17	45.6～22.8	68～34	91～46	121～61	171～86	228～114
变速机带一级齿轮减速见221-222页 Veriator with Single stage gear deceleration See page 221-222	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见223页 Veriator with Double stage gear deceleration See page 223	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	1643-882
	20	10-50	50-25	106-53	140-70	140-96				824-412	1110-550	1512-756	2062-1031

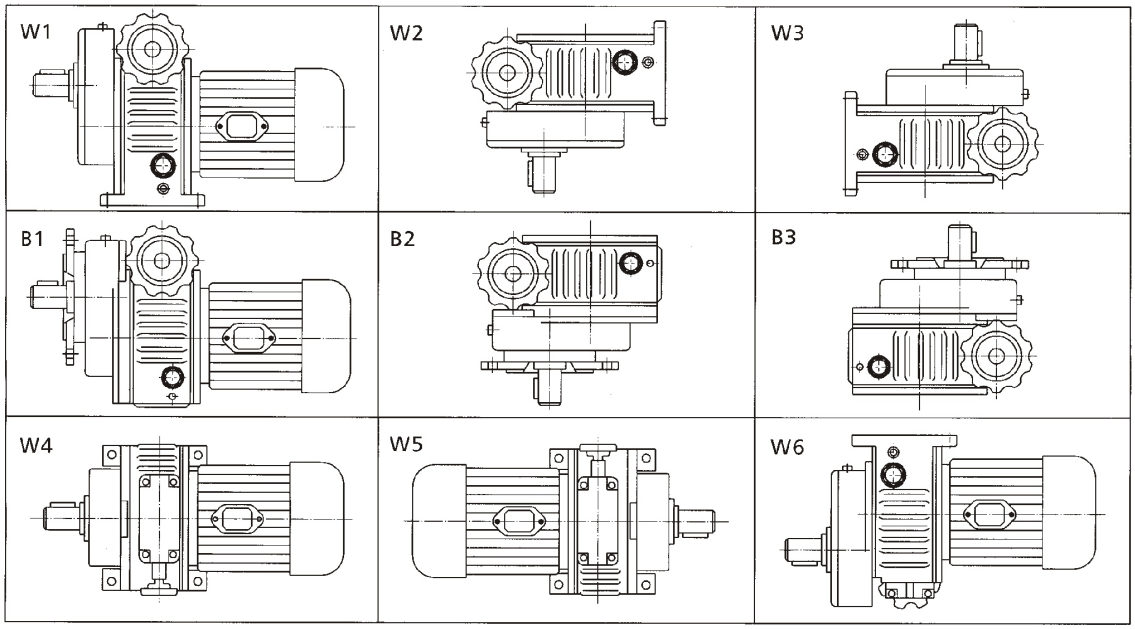
型号规格的选择 Choice of Model Specs

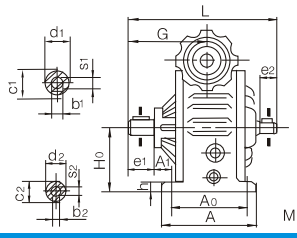
选择变速机、变速机带一级齿轮型可根据型号规格表直接选出。 The variator, varator with stair gear can be chosen directly according to the model specs.

MBW/MBL系列无级变速器基本型安装示例
Installation example of MBW/MBL series of variable drives'basic model

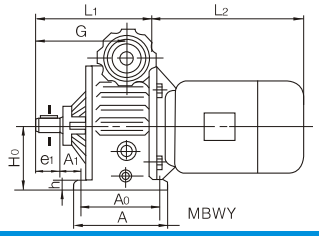


MB系列配一级齿轮减速的安装示例
Installation example of MB series with grade one gear speed reducer

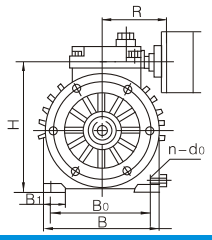




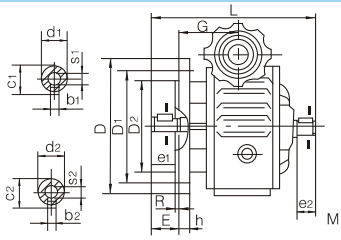
MBW



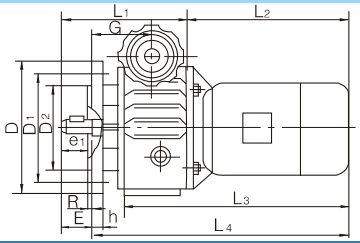
MBWY



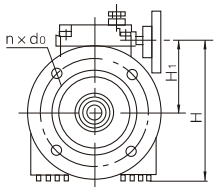
MB	H0	A	A0	A1	B	B0	B1	h	n	d0	H	V	R	G	d1	b1	c1	e1	s1	d2	b2	c2	e2	s2	L	L1	L2
02	75	125	105	18	146	110	25	13	4	9	160	100	105	99	14	5	16	30	M6	14	5	16	25	M6	195	130	200
04	90	135	105	30	160	120	30	15	4	10	186	100	118	112	14	5	16	30	M6	14	5	16	30	M6	221	145	235
07	106	150	125	35	190	160	40	15	4	12	215	100	126	125	20	6	22.5	40	M8	19	6	21.5	30	M8	243	177	245
15	125	165	140	50	230	180	50	18	4	12	246	100	135	157	25	8	28	50	M8	24	8	27	40	M8	314	223	285
22	150	270	230	25	300	245	55	20	4	14	300	100	166	195	30	8	33	60	M8	24	8	27	50	M8	387	268	320
40	150	270	230	25	300	245	55	20	4	14	300	100	166	195	30	8	33	60	M8	24	8	27	50	M8	387	268	340
55	200	290	250	33	365	315	70	30	4	18	392	164	194	201	35	10	38	70	M10	32	10	35	60	M10	467	319	395
75	200	290	250	33	365	315	70	30	4	18	392	164	194	201	35	10	38	70	M10	32	10	35	60	M10	467	319	435
110	224	420	350	50	455	350	85	45	4	20	478	164	204	309	50	14	53.5	110	M10	42	12	45	82	M10	657	457	483
150	224	420	350	50	455	350	85	45	4	20	478	164	204	309	50	14	53.5	110	M10	42	12	45	82	M10	657	457	528
220	250	420	350	50	455	350	85	45	4	20	504	250	225		55	16	59	110			12					457	



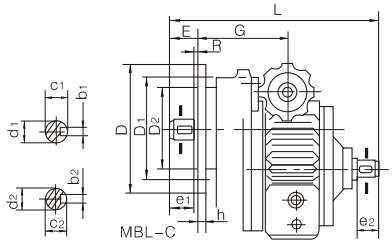
MBL



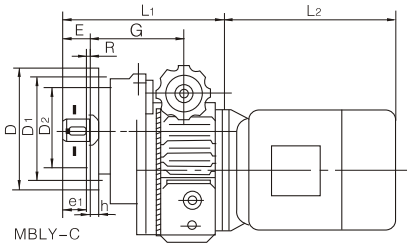
MBLY



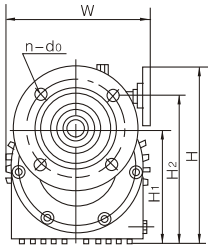
MB	D	D1	D2	E	h	R	n	d0	d1	b1	c1	e1	s1	d2	b2	c2	e2	s2	H1	H	G	L	L1	L2	L3	L4
02	160	130	110	30	12	3.5	4	10	14	5	16	30	M6	14	5	16	25	M6	85	152	68	193	129	200	260	299
04	200	165	130	30	12	3.5	4	12	14	5	16	30	M6	14	5	16	30	M6	96	278	82	221	145	235	300	350
07	200	165	130	40	12	3.5	4	12	20	6	22.5	40	M8	19	6	21.5	30	M8	109	207	85	243	177	245	335	382
15	250	215	180	50	16	4	4	15	25	8	28	50	M8	24	8	27	40	M8	121	237	107	314	223	285	391	458
22	300	265	230	60	16	4	4	15	30	8	33	60	M8	24	8	27	50	M8	150	293	142	387	268	320	456	528
40	300	265	230	60	16	4	4	15	30	8	33	60	M8	24	8	27	50	M8	150	293	142	387	268	340	476	548
55	350	300	250	70	20	5	6	19	35	10	38	70	M10	32	10	35	60	M10	192	382	131	467	319	395	577	644
75	350	300	250	70	20	5	6	19	35	10	38	70	M10	32	10	35	60	M10	192	382	131	467	319	435	617	684
110	400	350	300	110	22	5	4	19	50	14	53.5	110	M10	42	12	45	82	M10	254	475	199	657	457	483	765	830
150	400	350	300	110	22	5	4	19	50	14	53.5	110	M10	42	12	45	82	M10	254	475	199	657	457	528	810	875
220	450	400	350		22	5	4	19	55	16	59	110			12				254	475	199		457			



MBL-C

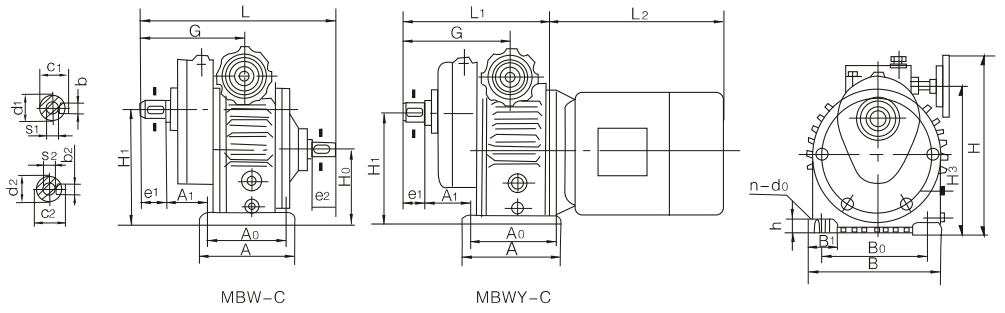


MBLY-C

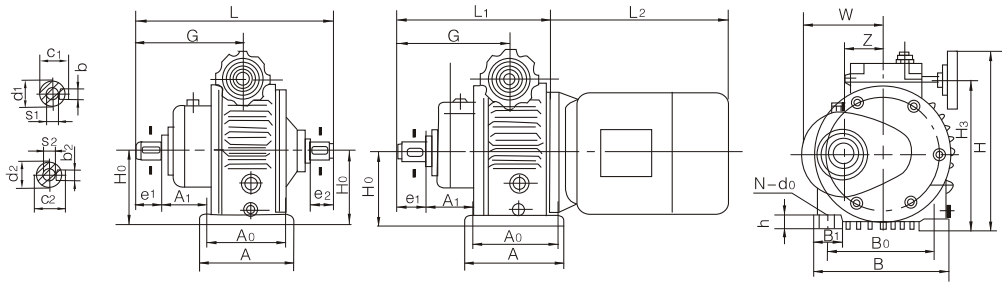


MB	D	D1	D2	E	h	R	n	d0	d1	b1	c1	e1	s1	d2	b2	c2	e2	s2	H1	H2	H	G	W	E	L1	L2
02	160	130	110	30	12	3.5	4	10	20	6	22.5	30	M8	14	5	16	25	M6	120	160	200	138	162	265	197	200
04	160	130	110	30	12	3.5	4	10	20	6	22.5	30	M8	14	5	16	30	M6	135	186	226	140	190	280	203	235
07	200	165	130	35	14	3.5	4	12	28	8	31	35	M8	19	6	21.5	30	M8	166	215	260	153	202	306	240	245
15	200	165	130	45	14	4	4	12	30	8	33	45	M8	24	8	27	40	M8	190	245	313	155	252	395	266	285
22	250	215	180	60	16	4	4	15	40	12	43	60	M10	24	8	27	50	M8	230	300	355	205	286	458	337	320
40	250	215	180	60	16	4	4	15	40	12	43	60	M10	24	8	27	50	M8	230	300	355	205	286	458	337	340
55	300	265	230	82	20	5	4	15	50	14	53.5	82	M10	32	10	35	60	M10	320	389	475	263	400	601	453	395
75	300	265	230	82	20	5	4	15	50	14	53.5	82	M10	32	10	35	60	M10	320	389	475	263	400	601	453	395
110	650	590	520	105		5	4	22	63	18	67	105	M10	42	12	45	82	M10	371	475	557	289	455	744	542	483
150	650	590	520	105	30	5	4	22	63	18	67	105	M12	42	12	45	82	M10	371	475	557	289	455	744	542	528
220	650	590	520	105	30	6	4	22	75	20	79.5				12							289			542	

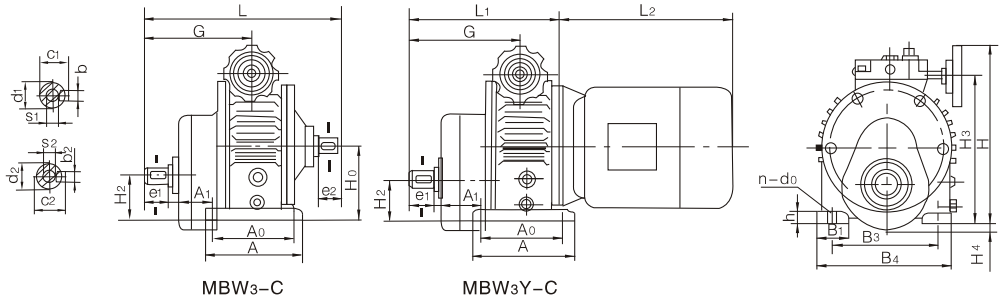
MB 变速机带一级齿轮型　MB Variator with Arterial Gear



MBW–C　　MBWY–C



MBW2–C　　MBW2Y–C

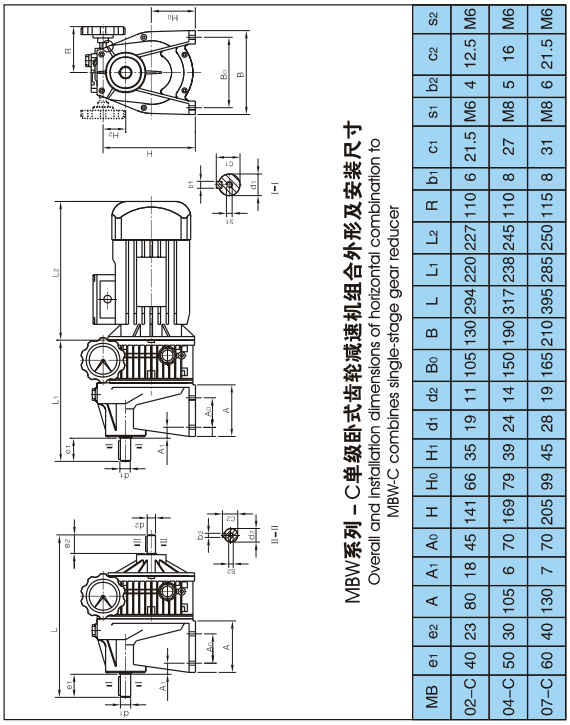


MBW3–C　　MBW3Y–C

MB	H1	Ho	H2	A	Ao	A1	B	Bo	B1	B3	B4	h	n	do	d1	b1	c1	e1	s1	d2	b2	c2	e2	s2	H3	H4	H	G	W	Z	L	L1	L2
02	120	75	40	125	105	57	140	110	25	140	160	13	4	9	20	6	22.5	30	M8	14	5	16	25	M6	160	19	200	137	104	45	234	170	200
04	135	90	50	135	105	59	160	120	30	140	170	15	4	10	20	6	22.5	30	M8	14	5	16	30	M6	186	9	226	141	104	45	247	171	235
07	166	106	46	150	125	69	190	160	40	160	190	15	4	12	28	8	31	35	M8	19	6	21.5	30	M8	215	23	260	158	129	60	272	209	245
15	190	125	60	165	140	78	230	180	50	180	230	18	4	12	30	8	33	45	M8	24	8	27	40	M8	246	21	313	178	146	65	336	245	285
22	230	150	70	270	230	93	300	245	55	245	300	20	4	14	40	12	43	60	M10	24	8	27	50	M8	300	20	355	234	170	80	425	306	320
40	230	150	70	270	230	93	300	245	55	245	300	20	4	14	40	12	43	60	M10	24	8	27	50	M8	300	20	355	234	170	80	425	306	340
55	320	200	80	290	250	157	365	315	70	315	365	30	4	18	50	14	53.5	82	M10	32	10	35	60	M10	389	42	475	347	242	120	603	455	395
75	320	200	80	290	250	157	365	315	70	315	365	30	4	18	50	14	53.5	82	M10	32	10	35	60	M10	389	42	475	347	242	120	603	455	435
110	374	224	74	420	350	127	455	350	85	350	455	45	4	20	63	18	67	105	M12	42	12	45	82	M10	478	49	560	381	326	150	730	528	483
150	374	224	74	420	350	127	455	350	85	350	455	45	4	20	63	18	67	105	M12	42	12	45	82	M10	478	49	560	381	326	150	730	528	528
220	400	250		420	350	127	455	350	85			45	4	20	75	20	79.5				12											528	

MBW系列 – C单级卧式齿轮减速机组合外形及安装尺寸

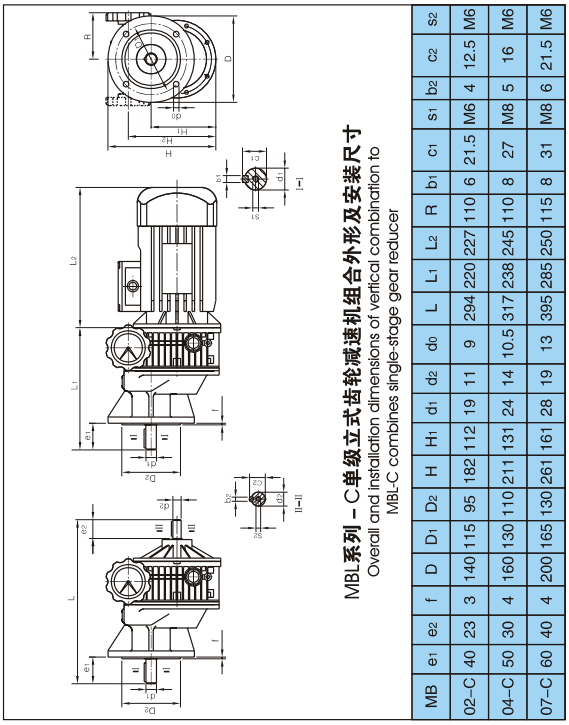
Overall and installation dimensions of horizontal combination to MBW-C combines single-stage gear reducer



MB	e1	e2	A	A1	A0	H	H0	H1	d1	d2	B0	B	L	L1	L2	R	b1	c1	s1	b2	c2	s2
02–C	40	23	80	18	45	141	66	35	19	11	105	130	294	220	227	110	6	21.5	M6	4	12.5	M6
04–C	50	30	105	6	70	169	79	39	24	14	150	190	317	238	245	110	8	27	M8	5	16	M6
07–C	60	40	130	7	70	205	99	45	28	19	165	210	395	285	250	115	8	31	M8	6	21.5	M6

MBL系列 – C单级立式齿轮减速机组合外形及安装尺寸

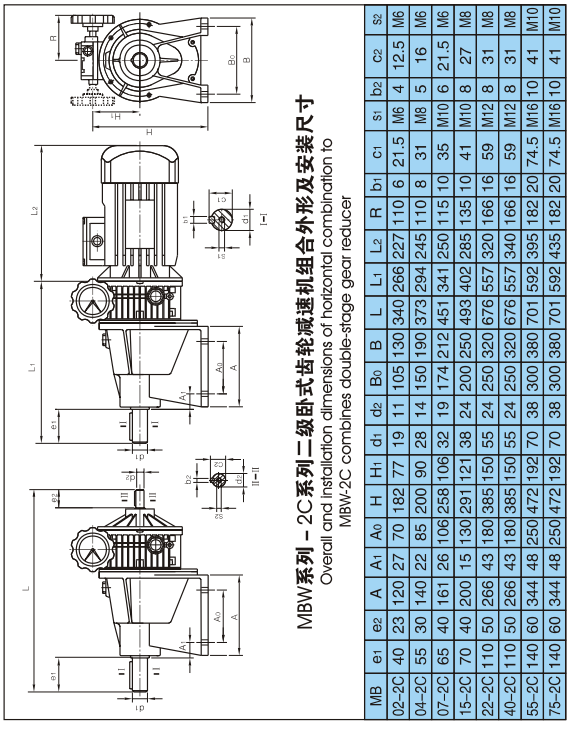
Overall and installation dimensions of vertical combination to MBL-C combines single-stage gear reducer



MB	e1	e2	f	D	D1	D2	H	H1	d1	d2	db	L	L1	L2	R	b1	c1	s1	b2	c2	s2
02–C	40	23	3	140	115	95	182	112	19	11	9	294	220	227	110	6	21.5	M6	4	12.5	M6
04–C	50	30	4	160	130	110	211	131	24	14	10.5	317	238	245	110	8	27	M8	5	16	M6
07–C	60	40	4	200	165	130	261	161	28	19	13	395	285	250	115	8	31	M8	6	21.5	M6

MBW系列 – 2C系列二级卧式齿轮减速机组合外形及安装尺寸

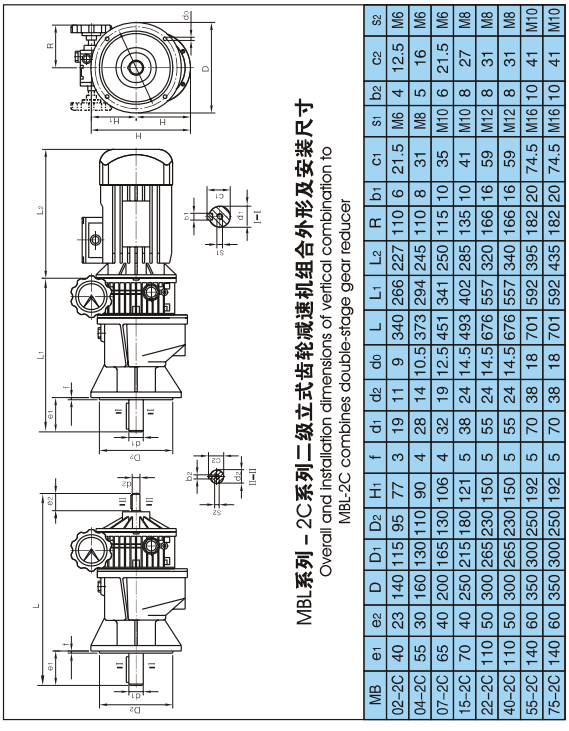
Overall and installation dimensions of horizontal combination to MBW-2C combines double-stage gear reducer



MB	e1	e2	A	A1	A0	H	H1	d1	d2	B0	B	L	L1	L2	R	b1	c1	s1	b2	c2	s2
02–2C	40	23	120	27	70	182	77	19	11	105	130	340	266	227	110	6	21.5	M6	4	12.5	M6
04–2C	55	30	140	22	85	200	90	28	14	150	190	373	294	245	110	8	31	M8	5	16	M6
07–2C	65	40	161	26	106	258	106	32	19	174	212	451	341	250	115	10	35	M10	6	21.5	M6
15–2C	70	40	200	15	130	291	121	38	24	200	250	493	402	285	135	10	41	M10	8	27	M8
22–2C	110	50	266	43	180	385	150	55	24	250	320	676	557	320	166	16	59	M12	8	31	M8
40–2C	110	50	266	43	180	385	150	55	24	250	320	676	557	340	166	16	59	M12	8	31	M8
55–2C	140	60	344	48	250	472	192	70	38	300	380	701	592	395	182	20	74.5	M16	10	41	M10
75–2C	140	60	344	48	250	472	192	70	38	300	380	701	592	435	182	20	74.5	M16	10	41	M10

MBL系列 – 2C系列二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 MBL-2C combines double-stage gear reducer



MB	e1	e2	D	D1	D2	H	H1	f	d1	d2	db	L	L1	L2	R	b1	c1	s1	b2	c2	s2
02–2C	40	23	140	115	95	77	3	19	11	9	340	266	227	110	6	21.5	M6	4	12.5	M6	
04–2C	55	30	160	130	110	90	4	28	14	10.5	373	294	245	110	8	31	M8	5	16	M6	
07–2C	65	40	200	165	130	106	4	32	19	12.5	451	341	250	115	10	35	M10	6	21.5	M6	
15–2C	70	40	250	215	180	121	5	38	24	14.5	493	402	285	135	10	41	M10	8	27	M8	
22–2C	110	50	300	265	230	150	5	55	24	14.5	676	557	320	166	16	59	M12	8	31	M8	
40–2C	110	50	300	265	230	150	5	55	24	14.5	676	557	340	166	16	59	M12	8	31	M8	
55–2C	140	60	350	300	250	192	5	70	38	18	701	592	395	182	20	74.5	M16	10	41	M10	
75–2C	140	60	350	300	250	192	5	70	38	18	701	592	435	182	20	74.5	M16	10	41	M10	