



MABR

Series planetary gearbox
系列行星减速机

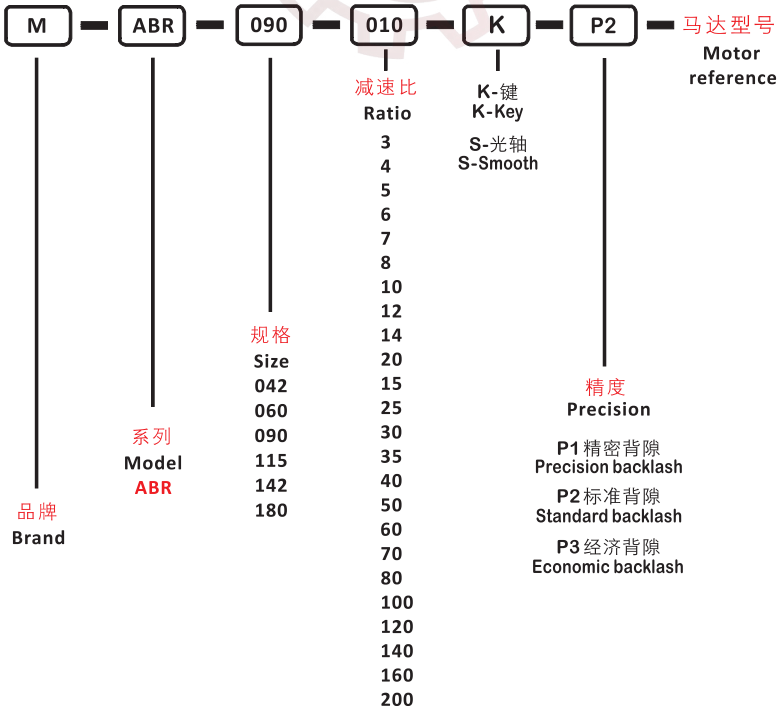
PRODUCT FEATURESS 产品特点

- ☆ 行星臂架与输出轴采用一体式结构设计，确保最大的扭转刚性。
- ☆ 行星轮采用满滚针设计，增加接触面积以提高结构刚性及输出扭矩。
- ☆ 齿轮采用低碳钢表面渗碳淬火到HRC62，以获得最佳的耐磨及冲击韧性。
- ☆ 齿形引用国外进口软件辅助设计，以获得最佳的齿形降低噪音。
- ☆ 输入端与马达轴连接采用双边抱紧方式，以获取最大的夹紧力和零背隙的动力传递。
- ☆ 采用蜗线伞齿轮设计，容许输出扭矩高、比直伞齿轮高30%以上。
- ☆ 高容许输入转速，比直伞齿轮输入高8倍以上。
- ☆ 蜗线伞齿轮的啮合齿印，经最佳优化设计，接触齿面负载均一，运转寿命长。
- ☆ 蜗线伞齿轮啮合，经最佳运动误差分析与严格的制程控制，以确保高精度的运转背隙。
- ☆ Planetary boom and output shaft are intergrated structure designed to ensure maximum torsional rigidity.
- ☆ Planetary wheel with full needle design,increase the contact area to improve the rigidity and output torque.
- ☆ The gears are carburized and quenched to the HRC62 with low carbon steel surface for optimum wear and impact toughness.
- ☆ Gears refer to foreign imported software-assisted design to obtain the best tooth shape to reduce noise.
- ☆ The input terminal is connected to the motor shaft in a double-tight manner to obtain the maximum clamping force and zero backlash power transmission.
- ☆ Adopt spiral bevel gear design, allow high output torque, more than 30% higher than straight bevel gear.
- ☆ High tolerance input speed, more than 8 times higher than straight bevel gear input.
- ☆ The meshing tooth imprint of spiral bevel gear has been optimized by optimum design, and the contact tooth surface load is uniform, and long running life.
- ☆ Cochlear bevel gears are meshed by optimum motion error analysis and strict process control to ensure high precision running back clearance.



INDICATION FOR MODEL SELECTION

● 机种型号表示



GENERAL NOTICES

● 订货须知

- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

PLANETARY GEARBOX

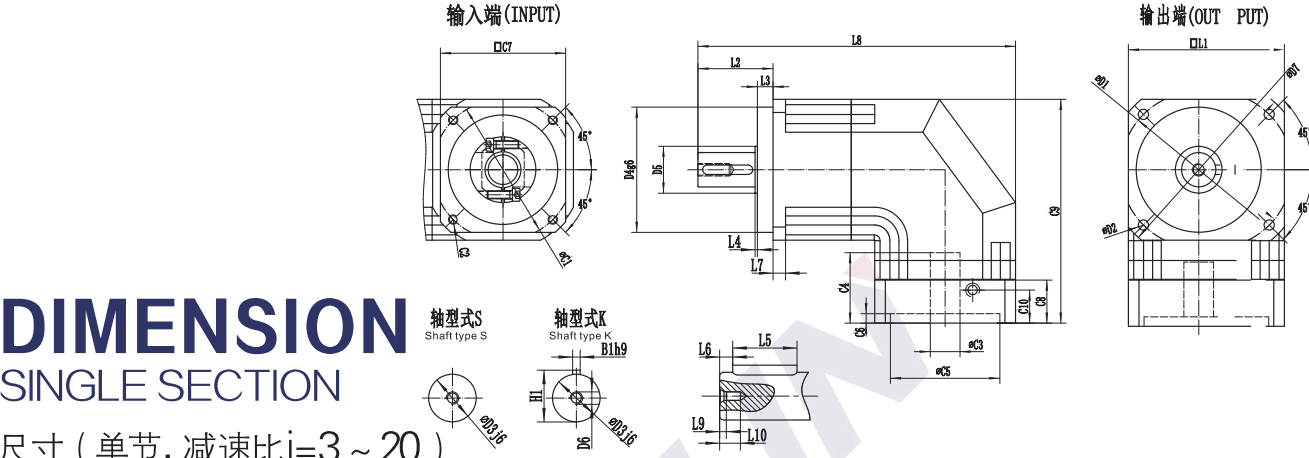
减速机性能资料 /Performance

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	MABR042	MABR060	MABR090	MABR115	MABR142	MABR180
额定输出力矩 Rated output torque T_{2N}	Nm	1	3	9	36	90	195	342	588
			4	12	48	120	260	520	1040
			5	15	60	150	325	650	1200
			6	18	55	150	310	600	1100
			7	19	50	140	300	550	1100
			8	17	50	140	290	542	1050
			10	14	60	160	330	650	1200
			12	18	55	150	310	600	1100
			14	19	50	140	300	550	1100
			20	14	40	100	230	450	900
			15	15	55	130	208	342	588
			25	15	60	150	325	650	1200
		2	30	20	55	150	310	600	1100
			35	19	50	140	300	550	1100
			40	17	50	140	290	542	1050
			50	14	60	160	330	650	1200
			60	20	55	150	310	600	1100
			70	19	50	140	300	550	1100
			80	17	50	140	290	542	1050
			100	14	60	160	330	650	1200
			120	18	55	150	310	600	1100
			140	19	50	140	300	550	1100
			160	17	45	120	260	500	1000
			200	14	40	100	230	450	900
急停扭矩 /Emergency stop torque T_{2NOT}	Nm	1,2	3~200	三倍额定输出力矩 /Triple rated output torque					
额定输入转速 /Rated input speed n_{1N}	rpm	1,2	3~200	5000	5000	4000	4000	3000	3000
最大输入转速 /Maximum input speed n_{1B}	rpm	1,2	3~200	10000	10000	8000	8000	6000	6000
精密背隙 /Precision backlash $P1^*$	arcmin	1	3~20	≤4	≤4	≤4	≤4	≤4	≤4
		2	15~200	≤7	≤7	≤7	≤7	≤7	≤7
标准背隙 /Standard backlash $P2^*$	arcmin	1	3~20	≤6	≤6	≤6	≤6	≤6	≤6
		2	15~200	≤9	≤9	≤9	≤9	≤9	≤9
经济背隙 /Economic backlash $P3$	arcmin	1	3~20	≤8	≤8	≤8	≤8	≤8	≤8
		2	15~200	≤12	≤12	≤12	≤12	≤12	≤12
扭转刚性 /Torsional rigidity	Nm/arcmin	1,2	3~200	3	7	14	25	50	145
容许径向力 /Allowable radial force F_{2aB}	N	1,2	3~200	780	1530	3250	6700	9400	14500
容许轴向力 /Allowable axial force F_{2aB}	N	1,2	3~200	390	765	1625	3350	4700	7250
使用寿命 /Lifespan	hr	1,2	3~200	20000 *					
效率 /Efficiency	%	1	3~20	95 %					
		2	25~200	92 %					
重量 /Weight	kg	1	3~20	0.9	2.1	6.4	13	24.5	51
		2	25~200	1.2	1.5	7.8	14.2	27.5	54
使用温度 /Working temperature	℃	1,2	3~200	(-10° C +90° C)					
润滑 /Lubricating				合成润滑脂 /Synthetic lubricating grease					
防护等级 /IP Grade		1,2	3~200	IP65					
安装方向 /Installation direction		1,2	3~200	任意方向 /In any direction					
噪音值 (n1=3000rpm,无负载) Noise level (n1=3000rpm,off load)	dB(A)	1,2	3~200	≤61	≤63	≤65	≤68	≤70	≤72

(带 ** 的精度需与工程师确认 /Need confirm with our engineer for those precision data with *)

减速机转动惯量 /Rotational inertia

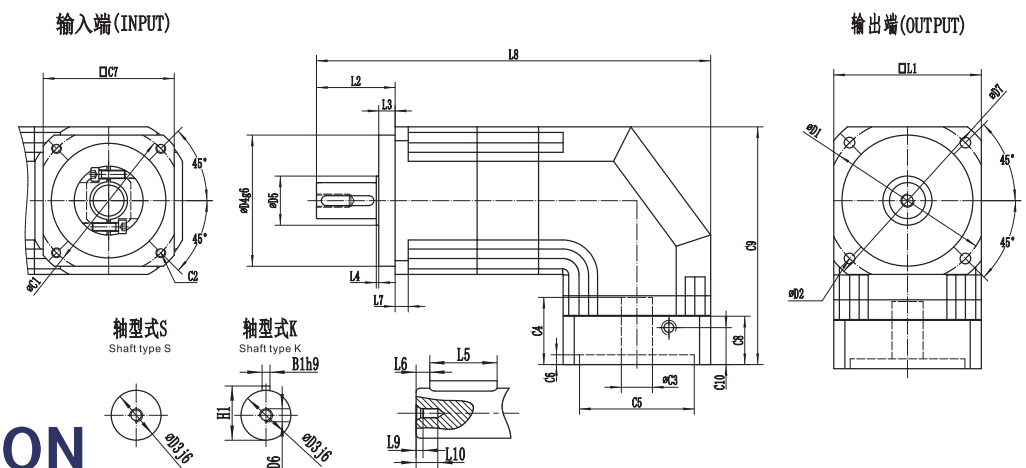
规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	MABR042	MABR060	MABR090	MABR115	MABR142	MABR180
转动惯量 J1 Rotational inertia J1	kg.cm²	1	3~10	0.09	0.35	2.25	6.84	23.4	68.9
			12、14	0.035	0.07	1.87	6.25	21.8	65.6
			20	0.03	0.07	1.87	6.25	21.8	65.6
		2	15	0.09	0.35	2.25	6.84	23.4	68.9
			25~100	0.09	0.09	0.35	2.25	6.84	23.4
			120~200	0.007	0.01	0.31	1.87	6.25	21.8



DIMENSION SINGLE SECTION

尺寸 (单节, 减速比 i=3 ~ 20)
Dimension (single stage, Ratio i=3~20)

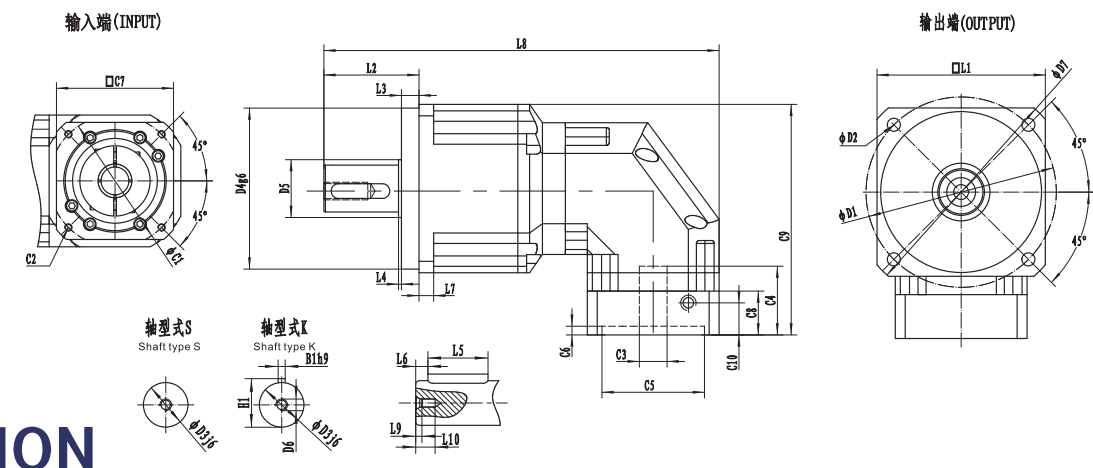
尺寸 /Dimension	MABR042	MABR060	MABR090	MABR115	MABR142	MABR180
D1	-	70	100	130	165	-
D2	-	5.5	6.6	9	11	-
D3j6	-	16	22	32	40	-
D4g6	-	50	80	110	130	-
D5	-	17.5	30	40	49.5	-
D6	-	M5	M8	M12	M16	-
D7	-	80	116	152	185	-
L1	-	60	90	115	142	-
L2	-	37	48	65	97	-
L3	-	7	10	12	15	-
L4	-	1.5	1.5	2	3	-
L5	-	25	32	40	63	-
L6	-	2	3	5	5	-
L7	-	6	8	10	12	-
L8	-	149.5	203	266.5	359	-
L9	-	4	6	10	16	-
L10	-	13	20	28	36	-
C1	-	70	90	145	200	-
C2	-	M4	M5	M8	M12	-
C3G6	-	14	19	24	35	-
C4	-	32.5	54	81	81	-
C5G6	-	50	70	110	114.3	-
C6	-	3.5	6	14	19	-
C7	-	60	80	130	180	-
C8	-	24.2	29.5	45.2	57	-
C9	-	100	145	189.5	246.5	-
C10	-	9.5	14.5	27	32	-
B1	-	5	6	10	12	-
H1	-	18	24.5	35	43	-



DIMENSION
DOUBLE SECTION

- 尺寸 (双节, 减速比 i=15~200) 型式 I
Dimension(double stage,Ratio i=15~200) TYPE I

尺寸/Dimension	MABR042	MABR060	MABR090	MABR115	MABR142	MABR180
D1	-	70	100	130	165	-
D2	-	4×φ5.5	4×φ6.6	4×φ9	4×φ11	-
D3j6	-	16	22	32	40	-
D4g6	-	50	80	110	130	-
D5	-	17.5	30	40	49.5	-
D6	-	M5	M8	M12	M16	-
D7	-	80	116	152	185	-
L1	-	60	90	115	142	-
L2	-	37	48	65	97	-
L3	-	7	10	12	15	-
L4	-	1.5	1.5	2	3	-
L5	-	25	32	40	63	-
L6	-	2	3	5	5	-
L7	-	6	8	10	12	-
L8	-	181.5	240.5	290	420	-
L9	-	4	6	10	16	-
L10	-	13	20	28	36	-
C1	-	70	90	145	200	-
C2	-	4×M4	4×M5	4×M8	4×M12	-
C3G6	-	14	19	24	35	-
C4	-	32.5	54	54	81	-
C5G6	-	50	70	110	114.3	-
C6	-	3.5	6	11.5	19	-
C7	-	60	80	130	180	-
C8	-	24.2	29.5	43	57	-
C9	-	100	145	170.5	246.5	-
C10	-	9.5	14.5	27	32	-
B1	-	5	6	10	12	-
H1	-	18	24.5	35	43	-



DIMENSION
DOUBLE SECTION

- 尺寸 (双节, 减速比 i=15~200) 型式 II
Dimension(double stage,Ratio i=15~200) TYPE II

尺寸/Dimension	MABR042	MABR060	MABR090	MABR115	MABR142	MABR180
D1	-	70	100	130	165	-
D2	-	4×φ5.5	4×φ6.6	4×φ9	4×φ11	-
D3j6	-	16	22	32	40	-
D4g6	-	50	80	110	130	-
D5	-	17.5	30	40	49.5	-
D6	-	M5	M8	M12	M16	-
D7	-	80	116	152	185	-
L1	-	60	90	115	142	-
L2	-	37	48	65	97	-
L3	-	7	10	12	15	-
L4	-	1.5	1.5	2	3	-
L5	-	25	32	40	63	-
L6	-	2	3	5	5	-
L7	-	6	8	10	12	-
L8	-	181.5	240.5	290	420	-
L9	-	4	6	10	16	-
L10	-	13	20	28	36	-
C1	-	70	90	145	200	-
C2	-	4×M4	4×M5	4×M8	4×M12	-
C3G6	-	14	19	24	35	-
C4	-	32.5	54	54	81	-
C5G6	-	50	70	110	114.3	-
C6	-	11	7	11.5	19	-
C7	-	60	80	130	180	-
C8	-	24.2	29.5	43	57	-
C9	-	100	145	170.5	246.5	-
C10	-	9.5	14.5	27	32	-
B1	-	5	6	10	12	-
H1	-	18	24.5	35	43	-