



MADR

Series planetary gearbox
系列行星减速机

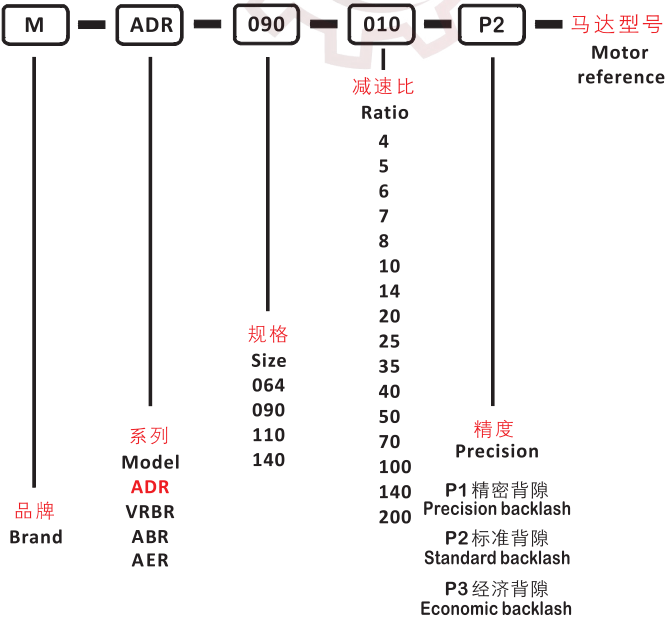
PRODUCT FEATURESS 产品特点

- ☆ 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与输出扭矩。
- ☆ 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

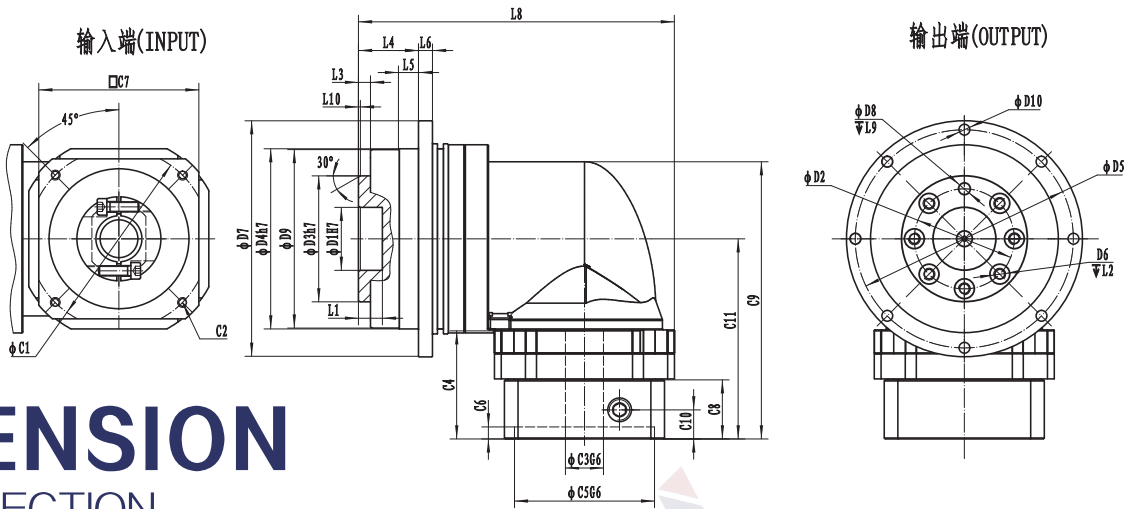
减速机性能资料/Performance

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	MADR064	MADR090	MADR110	MADR140
额定输出力矩 Rated output torque T _{2N}	Nm	1	4	48	130	270	560
			5	60	160	330	650
			6	50	140	300	550
			7	50	140	300	550
			8	48	130	270	560
			10	60	160	330	650
		2	14	50	140	300	550
			20	40	100	230	450
			25	60	160	330	650
			35	50	140	300	550
			40	48	130	270	560
			50	60	160	330	650
			70	50	140	300	550
			100	60	160	330	650
急停扭矩/Emergency stop torque T _{2NOT}	Nm	1,2	4~200	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	4~200	5000	4000	4000	3000
最大输入转速 /Maximum input speed n _{1B}	rpm	1,2	4~200	10000	8000	8000	6000
精密背隙 /Precision backlash P1*	arcmin	1	4~20	≤4	≤4	≤4	≤4
		2	25~200	≤7	≤7	≤7	≤7
标准背隙 /Standard backlash P2*	arcmin	1	4~20	≤6	≤6	≤6	≤6
		2	25~200	≤9	≤9	≤9	≤9
经济背隙 /Economic backlash P3	arcmin	1	4~20	≤8	≤8	≤8	≤8
		2	25~200	≤12	≤12	≤12	≤12
扭转刚性 /Torsional rigidity	Nm/arcmin	1,2	4~200	13	31	82	151
最大弯曲力矩 Maximum bending torque M2KB	Nm	1,2	4~200	125	235	430	1300
容许轴向力/Allowable axial force F _{2aB}	N	1,2	4~200	1050	2850	2990	10590
使用寿命 /Lifespan	hr	1,2	4~200	20000*			
效率 /Efficiency	%	1	4~20	≥95%			
		2	25~200	≥92%			
重量 /Weight	kg	1	4~20	2.1	5.9	10.5	21.9
		2	25~200	1.9	4.5	9.8	20.1
使用温度 /Working temperature	℃	1,2	4~200	(-10° C +90° C)			
润滑 /Lubricating				合成润滑脂 /Synthetic lubricating grease			
防护等级 /IP Grade		1,2	4~200	IP65			
安装方向 /Installation direction		1,2	4~200	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	4~200	≤63	≤65	≤68	≤70

(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

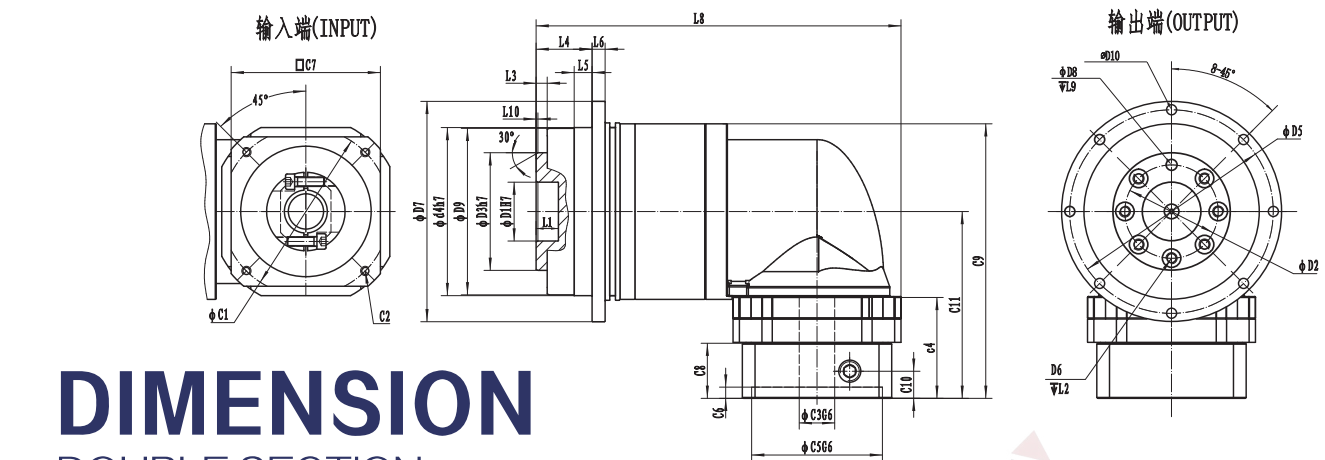
规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	MADR064	MADR090	MADR110	MADR140
转动惯量 J1 Rotational inertia J1	kg.cm ²	1	4~10	0.35	2.25	6.84	23.4
			14	0.07	1.87	6.25	21.8
			20	0.07	1.87	6.25	21.8
		2	25~100	0.09	0.35	2.25	6.84
			140~200	-	0.31	1.87	6.25



DIMENSION SINGLE SECTION

尺寸 (单节, 减速比 i=4 ~ 20) /Dimension(single stage,Ratio i=4~20)

尺寸/Dimension	MADR064	MADR090	MADR110	MADR140
D1H7	20	31.5	40	50
D2	31.5	50	63	80
D3h7	40	63	80	100
D4h7	64	90	110	140
D5	79	109	135	168
D6	7×M5	7×M6	11×M6	11×M8
D7	86	118	145	179
D8H7	5	6	6	8
D9	63.2	89.2	109.2	139.2
D10	8×4.5	8×5.5	8×5.5	12×6.6
L1	8	12	12	12
L2	9	12	15	17
L3	3	6	6	6
L4	19.5	30	29	38
L5	7	10	10	14.6
L6	4	7	8	10
L8	114.5	158	190	248
L9	6	7	7	7
L10	0.5	1	1	1
C1	70	90	145	200
C2	4×M4	4×M5	4×M8	4×M12
C3G6	≤14	≤19/≤24	≤24	≤35/≤42
C4	35	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	57
C9	104.5	147	194.5	250.5
C10	9.5	14.5	27	32
C11	70	100	132	175.5



DIMENSION
DOUBLE SECTION

● 尺寸（双节，减速比*i*=25~200）/Dimension(double stage,Ratio *i*=25~200)

尺寸/Dimension	MADR064	MADR090	MADR110	MADR140
D1H7	20	31.5	40	50
D2	31.5	50	63	80
D3h7	40	63	80	100
D4h7	64	90	110	140
D5	79	109	135	168
D6	7×M5	7×M6	11×M6	11×M8
D7	86	118	145	179
D8H7	5	6	6	8
D9	63.2	89.2	109.2	139.2
D10	8×4.5	8×5.5	8×5.5	12×6.6
L1	8	12	12	12
L2	9	12	15	17
L3	3	6	6	6
L4	19.5	30	29	38
L5	7	10	10	14.6
L6	4	7	8	10
L8	146.5	195.5	219.5	325.5
L9	6	7	7	7
L10	0.5	1	1	1
C1	70	90	145	200
C2	4×M4	4×M5	4×M8	4×M12
C3G6	≤14	≤19/≤24	≤24	≤35/≤42
C4	35	54	67	81
C5G6	50	70	110	114.3
C6	3.5	6	11.5	19
C7	60	80	130	180
C8	24.2	29.5	42.5	57
C9	104.5	147	160	250.5
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- ☆ 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。
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