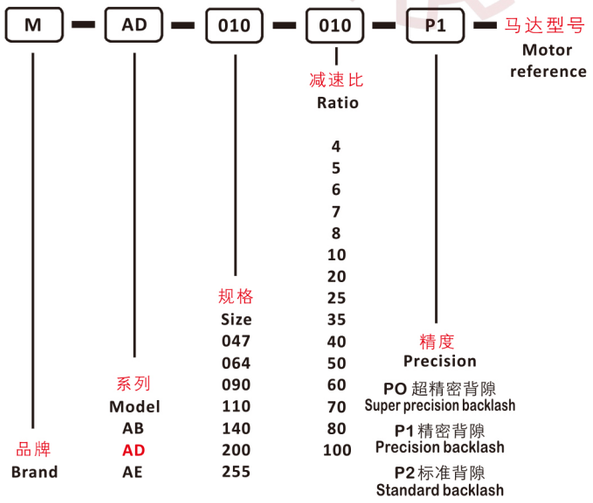
INDICATION FOR MODEL

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	MAD047	MAD064	MAD090	MAD110	MAD140	MAD200	MAD255
额定输出力矩 Rated output torque T_{2N}	Nm	1	4	19	48	130	270	560	1100	1700
			5	22	60	160	330	650	1200	2000
			6	19	50	140	300	550	1100	1800
			7	19	50	140	300	550	1100	1800
			8	14	40	100	230	450	900	1500
			10	14	40	100	230	450	900	1500
		2	20	19	48	130	270	560	1100	1700
			25	22	60	160	330	650	1200	2000
			35	19	50	140	300	550	1100	1800
			40	19	48	130	270	560	1000	1700
			50	22	60	160	330	650	1200	2000
			60	19	50	140	300	550	1100	1800
			70	19	50	140	300	550	1100	1800
			80	14	40	100	230	450	900	1500
			100	14	40	100	230	450	900	1500
急停扭矩 /Emergency stop torque T_{2NOT}	Nm	1,2	4～100	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	4～100	5000	5000	4000	4000	3000	3000	2000
最大输入转速 /Maximum iutput speed n_{1B}		1,2	4～100	10000	10000	8000	8000	6000	6000	4000
超精密背隙/Super precision backlash P0	arcmin	1	4～10	≤1	≤1	≤1	≤1	≤1	≤1	≤1
		2	20～100	≤3	≤3	≤3	≤3	≤3	≤3	≤3
精密背隙/Precision backlash P1	arcmin	1	4～10	≤3	≤3	≤3	≤3	≤3	≤3	≤3
		2	20～100	≤5	≤5	≤5	≤5	≤5	≤5	≤5
标准背隙/Standard backlash P2	arcmin	1	4～10	≤5	≤5	≤5	≤5	≤5	≤5	≤5
		2	20～100	≤8	≤8	≤8	≤8	≤8	≤8	≤8
扭转刚性 /Torsional rigidity	Nm/arcmin	1,2	4～100	7	13	31	82	151	440	1006
最大弯曲力矩 Maximum bending torque M2KB	Nm	1,2	4～100	42.5	125	235	430	1300	3064	5900
容许轴向力/Allowable axial force F_{2aB}	N	1,2	4～100	990	1050	2850	2990	10590	16660	29430
使用寿命 /Lifespan	hr	1,2	4～100	20000						
效率 /Efficiency	%	1	4～10	≥97%						
		2	20～100	≥94%						
重量 /Weight	kg	1	4～10	0.7	1.2	3	5.6	11.9	31.6	56.1
		2	20～100	1	1.6	3.7	7.3	15.9	36.9	70.4
使用温度 /Working temperature	℃	1,2	4～100	–10℃～90℃						
润滑 /Lubricating		1,2		合成润滑油脂 /Synthetic lubricating grease						
防护等级 /IP Grade		1,2	4～100	IP65						
安装方向 /Installation direction		1,2	4～100	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	4～100	≤56	≤58	≤60	≤63	≤65	≤67	≤70

ROTATIONAL INERTIA OF

REDUCER

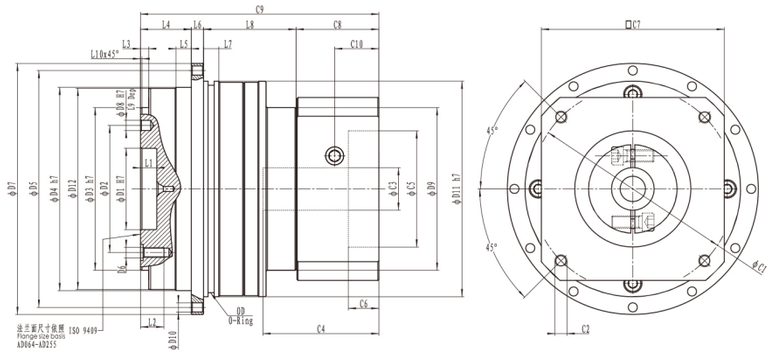
- 减速机转动惯量

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	MAD047	MAD064	MAD090	MAD110	MAD140	MAD200	MAD255
转动惯量J1 Rotational inertia J1	kg·cm²	1	4	0.03	0.14	0.51	2.87	7.54	25.03	58.31
			5	0.03	0.13	0.47	2.71	7.42	23.29	53.27
			6	0.03	0.13	0.45	2.61	7.14	22.48	50.97
			7	0.03	0.13	0.45	2.67	7.14	22.48	50.97
			8	0.03	0.13	0.44	2.57	7.03	22.51	50.56
			10	0.03	0.13	0.44	2.57	7.03	22.51	50.56
		2	20	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			25	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			35	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			40	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			50	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			60	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			70	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			80	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			100	0.03	0.03	0.13	0.44	2.57	7.03	22.51

1.减速比（ $i=N_{in}/N_{out}$ ）
1. Ratio（ $i=N_{in}/N_{out}$ ）

2.最大加速力矩 T_{2B} =60% of T_{2NOT}
2. Maximum acceleration torque T_{2B} =60% of T_{2NOT}

3.输出转数 100rpm ,作用于输出轴中心位置
3. Output speed100rpm,acting on the center of the output shaft

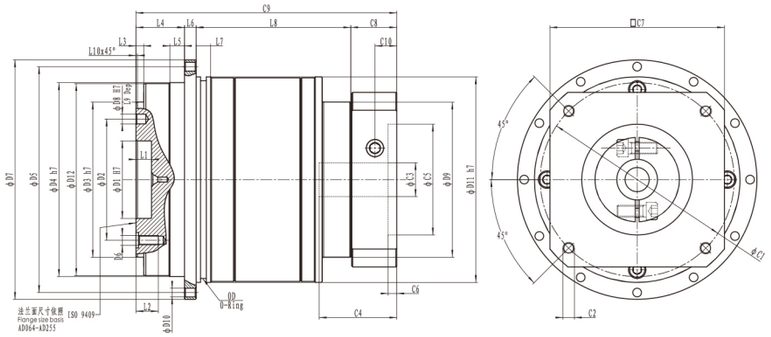


DIMENSION

SINGLE SECTION

- 尺寸（单节，减速比 i=4～10）
  Dimension(single stage,Ratio i=4~10)

尺寸/Dimension	MAD047	MAD064	MAD090	MAD110	MAD140	MAD200	MAD255
D1 H7	-	20	31.5	40	50	80	100
D2	-	31.5	50	63	80	125	140
D3 h7	-	40	63	80	100	160	180
D4 h7	-	64	90	110	140	200	255
D5	-	79	109	135	168	233	280
D6	-	7×M5×0.8P	7×M6×1P	11×M6×1P	11×M8×1.25P	11×M10×1.5P	12×M16×2.0P
D7	-	86	118	145	179	247	300
D8 H7	-	5	6	6	8	10	12
D9	-	51	77	98	125	160	190
D10	-	8×4.5	8×5.5	8×5.5	12×6.6	12×9	16×13.5
D11 h7	-	70	95	120	152	212	255
D12	-	63.2	89.2	109.2	139.2	199.2	254.2
L1	-	8	12	12	12	16	20
L2	-	8	13.5	13.5	17	22.5	30.5
L3	-	3	6	6	6	8	12
L4	-	19.5	30	29	38	50	66
L5	-	7	10	10	14.6	15	20
L6	-	4	7	8	10	12	18
L7	-	7.7	7.5	10	12	15	20
L8	-	41	44.5	59	68	82	98
L9	-	6	7	7	7	10	10
L10	-	0.5	1	1	1	1.5	1
C1	-	70	90	145	200	200	235
C2	-	M4*0.7P	M5*0.8P	M8*1.25P	M12*1.75P	M12*1.75P	M12*1.75P
C3	-	≤14/≤16	≤19/≤24	≤28	≤35/≤42	≤42	≤42/≤55
C4	-	35	46.5	67	81	114	117
C5	-	50	70	110	114.3	114.3	200
C6	-	3.5	6	14	19	24	20
C7	-	60	80	130	180	180	220
C8	-	23	30	45.5	57.5	81.5	87.5
C9	-	88	111.5	141.5	173.5	225.5	268.5
C10	-	11.5	14.5	27	32	43.5	49.5
OD	-	67×2.0	90×2.5	115×2.5	146×3	204×4	245×5



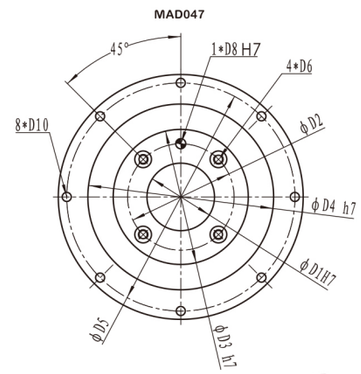
DIMENSION
DOUBLE SECTION

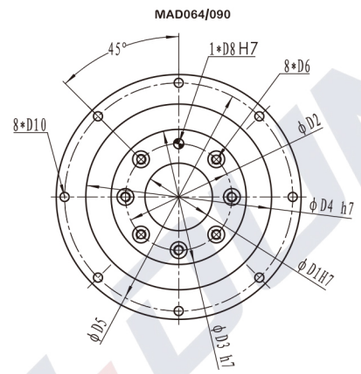
- 尺寸（双节，减速比i=20～100））
  Dimension(double stage,Ratio i=20~100)

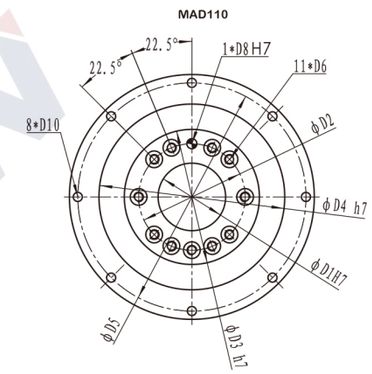
尺寸/Dimension	MAD047	MAD064	MAD090	MAD110	MAD140	MAD200	MAD255
D1 H7	-	20	31.5	40	50	80	100
D2	-	31.5	50	63	80	125	140
D3 h7	-	40	63	80	100	160	180
D4 h7	-	64	90	110	140	200	255
D5	-	79	109	135	168	233	280
D6	-	7×M5×0.8P	7×M6×1P	11×M6×1P	11×M8×1.25P	11×M10×1.5P	12×M16×2.0P
D7	-	86	118	145	179	247	300
D8 H7	-	5	6	6	8	10	12
D9	-	51	77	98	125	160	190
D10	-	8×4.5	8×5.5	8×5.5	12×6.6	12×9	16×13.5
D11 h7	-	70	95	120	152	212	255
D12	-	63.2	89.2	109.2	139.2	199.2	254.5
L1	-	8	12	12	12	16	20
L2	-	8	13.5	13.5	17	22.5	20
L3	-	3	6	6	6	8	12
L4	-	19.5	30	29	38	50	66
L5	-	7	10	10	14.6	15	20
L6	-	4	7	8	10	12	18
L7	-	7.7	7.5	10	12	15	20
L8	-	73	82	105	129	150.5	167
L9	-	6	7	7	7	10	10
L10	-	0.5	1	1	1	1.5	1
C1	-	70	90	145	145	200	200
C2	-	M4*0.7P	M5*0.8P	M8*1.25P	M8*1.25P	M12*1.75P	M12*1.75P
C3	-	≤14/≤16	≤16/≤19	≤19/≤24	≤24/≤28	≤35	≤42
C4	-	35	46.5	67	66	80	114
C5	-	50	70	110	110	114.3	114.3
C6	-	3.5	6	14	19	9	30
C7	-	60	80	130	180	180	180
C8	-	23	30	45.5	57.5	47.5	84.5
C9	-	120	149	187.5	234.5	260	332.5
C10	-	11.5	14.5	27	32	22.5	43.5
OD	-	67×2.0	90×2.5	115×2.5	146×3	204×4	245×5

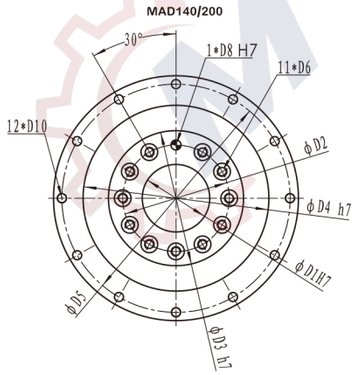
DIMENSION
OUTPUT SHAFT DISK SURFACE

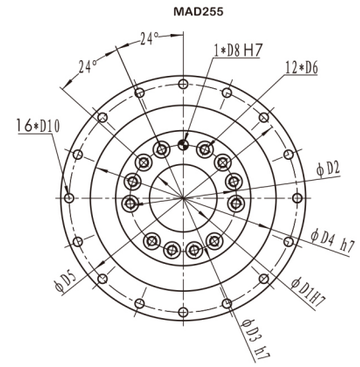
- 出力轴盘面尺寸 /Output Shaft Disk Dimension



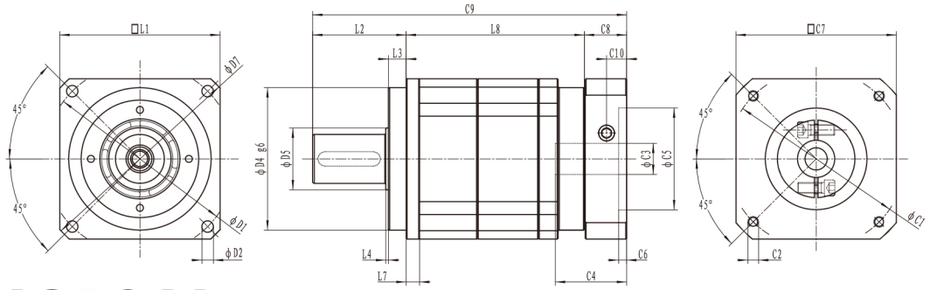








尺寸/Dimension	MAD047	MAD064	MAD090	MAD110	MAD140	MAD200	MAD255
D1 H7	12	20	31.5	40	50	80	100
D2	20	31.5	50	63	80	125	140
D3 h7	28	40	63	80	100	160	180
D4 h7	47	64	90	110	140	200	255
D5	67	79	109	135	168	233	280
D6	M3*0.5P	M5*0.8P	M6*1.0P	M6*1.0P	M8*1.25P	M10*1.5P	M16*2.0P
D8 H7	3	5	6	6	8	10	12
D10	3.4	4.5	5.5	5.5	6.8	9	13.5



DIMENSION

DOUBLE SECTION

- 尺寸（双节，减速比i=15～100）
  Dimension(double stage,Ratio i=15~100)

尺寸/Dimension	MAB042	MAB060	MAB090	MAB115	MAB142	MAB180	MAB220
D1	-	70	100	130	165	215	250
D2	-	5.5	6.6	9	11	13	17
D3 j6	-	16	22	32	40	55	75
D4 g6	-	50	80	110	130	160	180
D5	-	18	30	40	50	70	85
D6	-	M5*0.8P	M8*1.25P	M12*1.75P	M16*2.0P	M20*2.5P	M20*2.5P
D7	-	80	116	152	185	240	292
L1	-	60	90	115	142	180	220
L2	-	37	48	65	97	105	138
L3	-	6	10	12	15	20	30
L4	-	1.5	1.5	2	3	3	3
L5	-	25	32	40	63	70	90
L6	-	2	3	5	5	6	7
L7	-	7	8	10	12	15	20
L8	-	71.5	116	147	185.5	200	220
L9	-	4.8	7.2	10	12	15	15
L10	-	12.5	19	28	36	42	42
C1	-	70	90	145	145	200	200
C2	-	M4*0.7P	M5*0.8P	M8*1.25P	M8*1.25P	M12*1.75P	M12*1.75P
C3	-	≤14/≤16	≤16/≤19	≤19/≤24	≤24/≤28	≤35	≤42
C4	-	35	46.5	67	66	80	114
C5	-	50	70	110	110	114.3	114.3
C6	-	3.5	6	14	10	9	24
C7	-	60	80	130	130	180	180
C8	-	48	30	45.5	42.5	47.5	81.5
C9	-	154.5	194	257.5	340	352.5	441.5
C10	-	10.5	14.5	27	27	22.5	43.5
B1 h9	-	5	6	10	12	16	20
H1	-	18	24.5	35	43	59	79.5

MAD

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。

☆ 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.