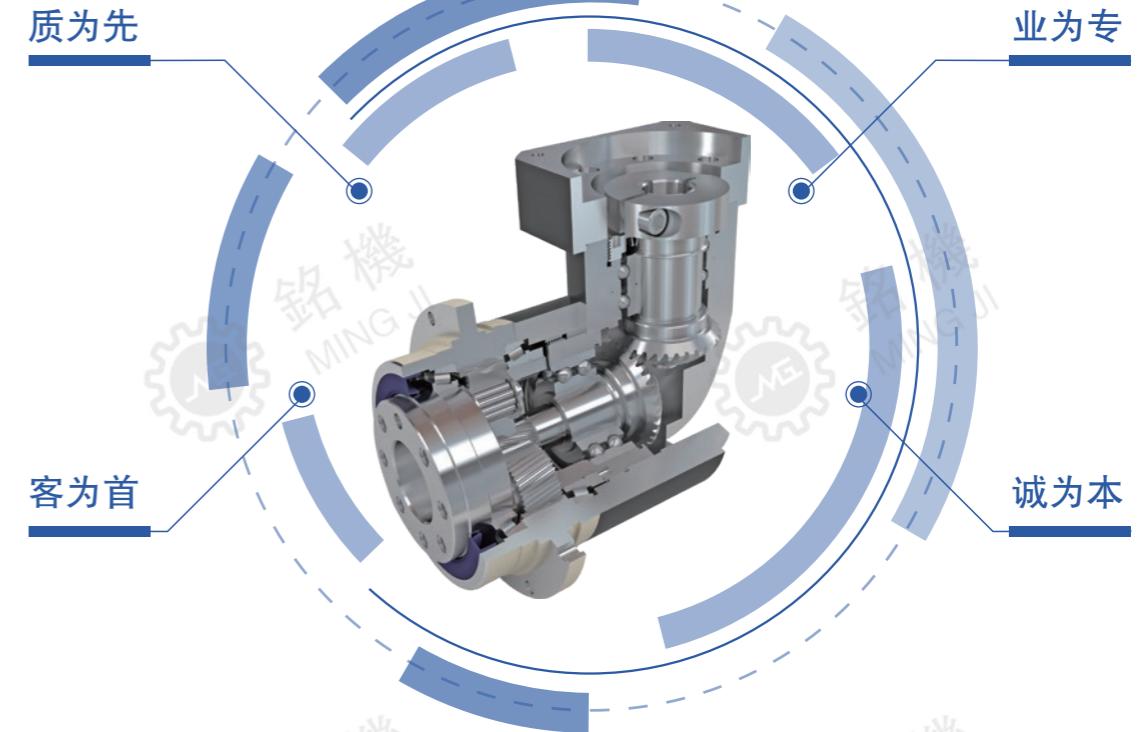


MKDR系列一经久耐用，节省空间

MKDR SERIES—DURABLE AND SAVING SPACE

71/72

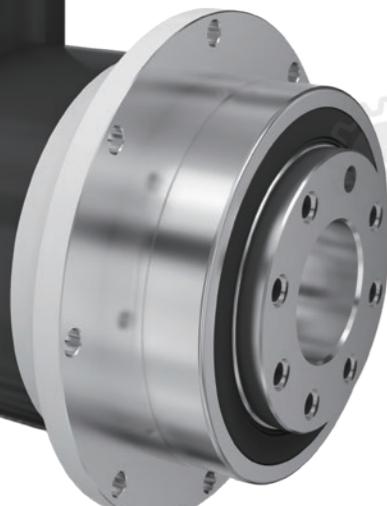


MKDR系列是MKD系列的有效拓展，这种直角型减速机适用于对减速机/电机安装空间要求非常节省的场合。

The MKDR series is an effective expansion of the MKD series. This kind of right-angle reducer is suitable for situations where the installation space of reducer/motor is very economical.

技术参数* TECHNICAL PARAMETERS

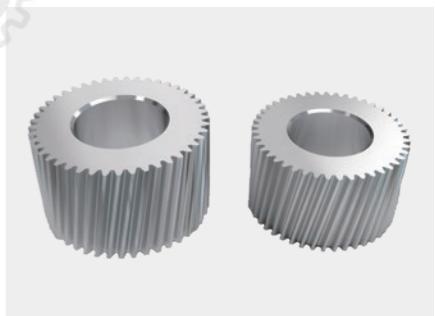
回程间隙 Return clearance	arcmin	2~9
速比 Speed ratio	i	3~100
额定输出力矩 Rated output torque	Nm	14~2000
使用温度°C Using temperature°C	°C	-10~90
噪音 The noise	dB(A)	61~74
工作效率 The work efficiency	%	95
工作寿命 The working life	h	20000



MKDR系列一经久耐用，节省空间
MKDR series-durable and saving space



锁紧环经动平衡分析，确保连转中，同心度和零滑差传递
The dynamic balance analysis of the locking ring ensures the concentricity and zero slip transfer in the continuous rotation



齿面宽, 参数做大, 实现高强度
The tooth surface is wide, the parameters are larger, and the high strength is achieved



太阳齿一体式设计, 确保同心度和扭转刚性
Integrated solar tooth design ensures concentricity and torsional rigidity



先进表面处理耐磨, 耐刮, 耐腐蚀
Advanced surface treatment wear-resistant, scratch-resistant, corrosion-resistant



一体化连接板设计, 与各种伺服, 马达完美配合
Integrated connection board design, perfect coordination with various servo and motors

减速机性能资料 REDUCER PERFORMANCE DATA

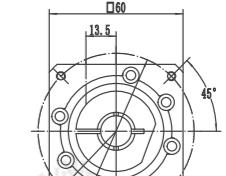
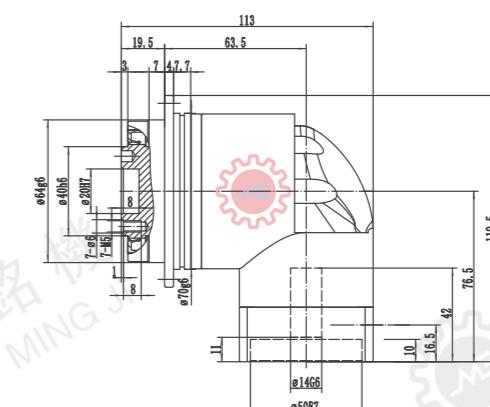
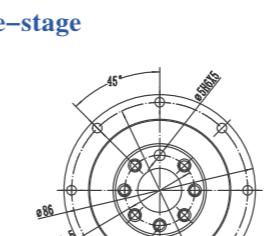
MKDR064			单级/One-stage										双级/Two-stage																				
速比 ⁽¹⁾ Speed ratio	i		4	5	6	7	8	9	10	16	20	25	30	35	40	50	60	70	100														
额定输出力矩(n_{IN}) Rated output torque	T_{2N}	Nm	50	60	55	50	45	40	40	45	40	60	55	50	50	50	55	50	50	40													
紧急制动力矩 (在减速机工作寿命内允许1000次) (1000 times during the working life of the reducer)	T_{2NOT}	Nm	3倍额定输出力矩/3 Times rated output torque																														
额定输入转速(T_{2n} , 20°C环境温度) Rated input speed (T_{2n} , 20°C ambient temperature)	n_{IN}	rpm	5000																														
最大输入转速 Maximum input speed	n_{1max}	rpm	10000																														
空载力矩($n=3000\text{rpm}, 20^\circ\text{C环境温度}$) No-load torque ($n=3000 \text{ RPM}, 20^\circ\text{C ambient temperature}$)	T_{012}	Nm	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.35	0.6	0.55	0.5	0.5	0.4	0.4	0.35	0.3														
回程间隙PS Backlash PS	j_t	Arcmin	≤ 2										≤ 3																				
回程间隙P0 Backlash P0	j_t	Arcmin	≤ 4										≤ 5																				
回程间隙P1 Backlash P1	j_t	Arcmin	≤ 6										≤ 7																				
回程间隙P2 Backlash P2	j_t	Arcmin	≤ 8										≤ 9																				
扭转刚度 Torsional stiffness	C_{121}	Nm/Arcmin	4.5																														
最大轴向力 ⁽²⁾ Maximum axial force	$F_{2A\text{Max}}$	N	1050																														
最大倾侧力矩 Maximum bending torque	$F_{2R\text{Max}}$	Nm	125																														
工作效率 Work efficiency	η	%	95										92																				
工作寿命 ⁽³⁾ Service life	L_h	h	20000																														
噪音($i=10$ 和 $n=3000\text{rpm}$, 空载) Noise ($i=10$ and $n=3000\text{rpm}$, no load)	L_{PA}	DB(A)	≤ 63																														
重量 Weight	m	Kg	2.1										2.4																				
安装方向 Installation direction			任意方向/Any direction																														
使用温度 ⁽⁴⁾ Operating temperature	°C		-10~90																														
润滑方式 Lubrication method			终生润滑/Lifetime lubrication																														
防护等级 Protection level			IP65																														
转动惯量 Moment of inertia	11	J_1	Kgcm ²	0.2	0.2	0.15	0.13	0.12	0.1	0.1	0.1	0.08	0.1	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08											
按减速机输入直径(mm) Input diameter based on the reducer(mm)	14	J_1	Kgcm ²	0.25	0.25	0.22	0.18	0.17	0.15	0.14	0.14	0.12	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15											
	19	J_1	Kgcm ²	0.6	0.055	0.55	0.52	0.5	0.5	0.48	0.45	0.42	0.18	0.16	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14											

1. 可选其他减速比
2. 输出轴中心点
3. 连续运转时, 使用寿命为10000h
4. 对温度有特殊要求请与铭机联系

1. Optional other ratio
2. Output shaft center point
3. Service life of 10000h in continuous operation
4. For special requirements on temperature, please contact MG

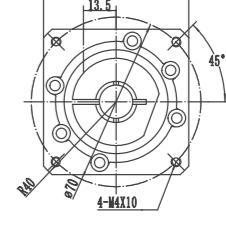
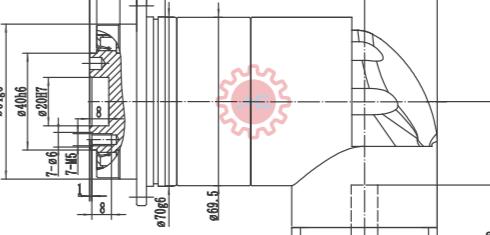
减速机性能资料 REDUCER PERFORMANCE DATA

单级/One-stage

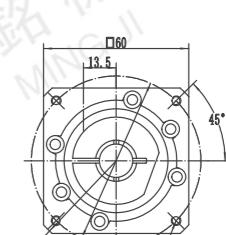
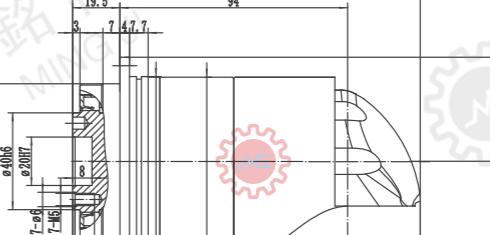


A≤14 ■

双级/Two-stage



C≤11 ■



D≤14 ■

(1) 请参照马达轴径尺寸

(2) 马达轴最长长度, 如有特殊的马达轴尺寸, 请与铭机联络

(3) 减速机输入端尺寸, 依马达的法兰面而定

*如无适合的尺寸, 请与铭机联系

(1) Please refer to the motor shaft diameter

(2) Motor shaft length, for special motor shaft size, please contact MG

(3) Reducer input size, depending on the flange surface of the motor

*If no suitable size available, please contact MG

减速机性能资料 REDUCER PERFORMANCE DATA

MKDR090			单级/One-stage										双级/Two-stage										
速比 ⁽¹⁾ Speed ratio	i		4	5	6	7	8	9	10	16	20	25	35	40	50	70	100						
额定输出力矩(n_{IN}) Rated output torque	T_{2N}	Nm	140	160	140	140	120	100	100	120	100	140	140	160	140	140	160	120	100				
紧急制动力矩 Emergency braking torque (在减速机工作寿命内允许1000次) (1000 times during the working life of the reducer)	T_{2NOT}	Nm																					
额定输入转速(T_{2n} , 20°C环境温度) Rated input speed (T_{2n} , 20°C ambient temperature)	n_{IN}	rpm																					
最大输入转速 Maximum input speed	n_{1max}	rpm																					
空载力矩($n=3000\text{rpm}$, 20°C环境温度) No-load torque ($n=3000\text{ RPM}$, 20°C ambient temperature)	T_{012}	Nm	1.7	1.6	1.5	1.4	1.1	0.8	0.7	0.7	0.7	0.8	0.7	0.6	0.5	0.5	0.4	0.3	0.3				
回程间隙PS Backlash PS	j_t	Arcmin																					
回程间隙P0 Backlash P0	j_t	Arcmin																					
回程间隙P1 Backlash P1	j_t	Arcmin																					
回程间隙P2 Backlash P2	j_t	Arcmin																					
扭转刚度 Torsional stiffness	C_{121}	Nm/Arcmin																					
最大轴向力 ⁽²⁾ Maximum axial force	F_{2AMax}	N																					
最大倾侧力矩 Maximum bending torque	F_{2RMax}	Nm																					
工作效率 Work efficiency	η	%																					
工作寿命 ⁽³⁾ Service life	L_h	h																					
噪音($i=10$ 和 $n=3000\text{rpm}$, 空载) Noise ($i=10$ and $n=3000\text{rpm}$, no load)	L_{PA}	DB(A)																					
重量 Weight	m	Kg																					
安装方向 Installation direction																							
使用温度 ⁽⁴⁾ Operating temperature		°C																					
润滑方式 Lubrication method																							
防护等级 Protection level																							
转动惯量 Moment of inertia 按减速机输入直径(mm) Input diameter based on the reducer(mm)	14	J_1	Kgcm^2	1.3	1.2	1.1	0.9	0.8	0.7	0.6	0.6	0.5	0.23	0.21	0.2	0.18	0.18	0.18	0.16	0.16			
	19	J_1	Kgcm^2	2.1	2	2	1.8	1.7	1.5	1.5	1.4	1.3	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.5		
	22	J_1	Kgcm^2	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2	0.8	0.07	0.7	0.7	0.7	0.65	0.8	0.6			

1. 可选其他减速比

2. 输出轴中心点

3. 连续运转时, 使用寿命为10000h

4. 对温度有特殊要求请与铭机联系

1. Optional other ratio

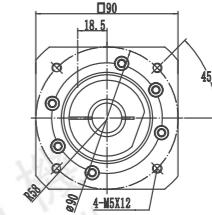
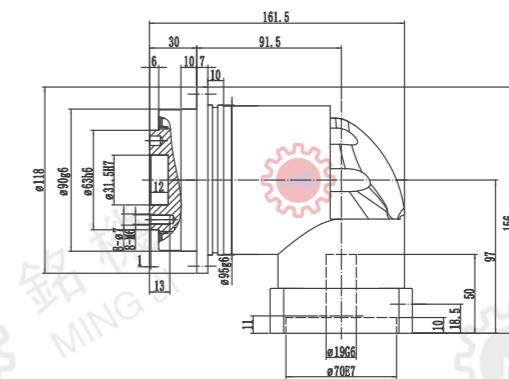
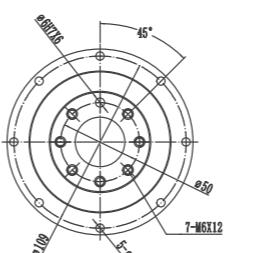
2. Output shaft center point

3. Service life of 10000h in continuous operation

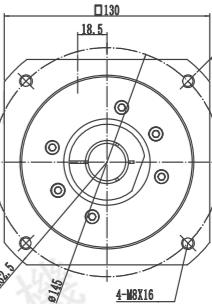
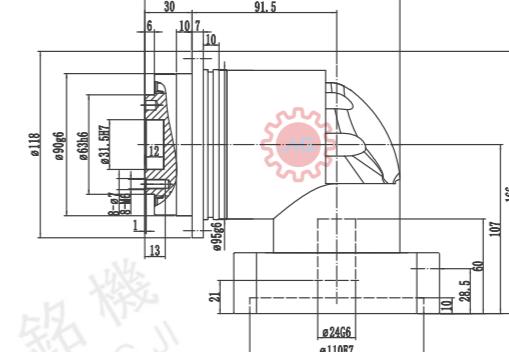
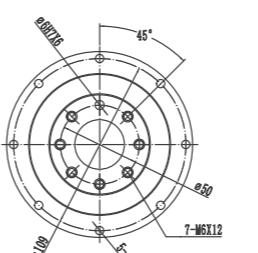
4. For special requirements on temperature, please contact MG

减速机性能资料 REDUCER PERFORMANCE DATA

单级/One-stage

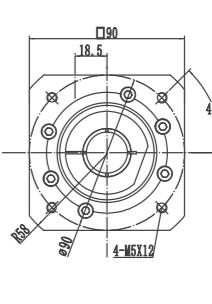
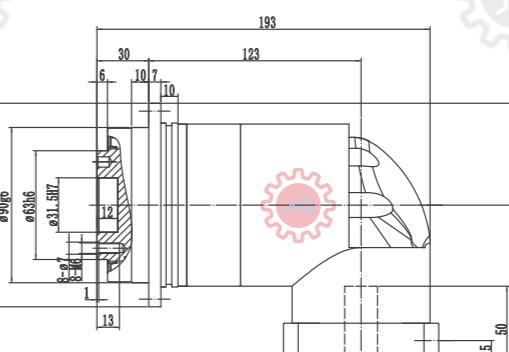
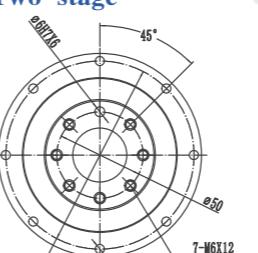


A < 19 ■

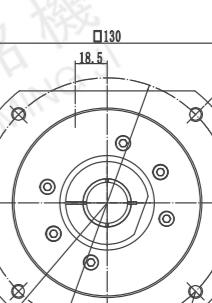
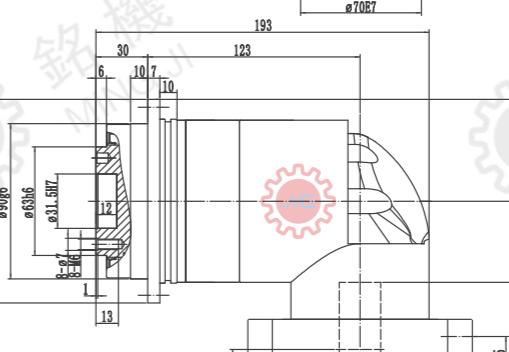
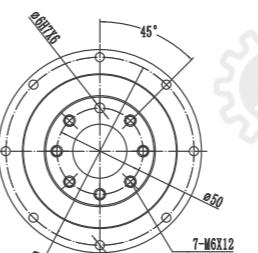


B < 24 ■

双级/Two-stage



C < 19 ■



D < 24 ■

(1) 请参照马达轴径尺寸
(2) 马达轴最长长度, 如有特殊的马达轴尺寸, 请与铭机联络
(3) 减速机输入端尺寸, 依马达的法兰面而定
*如无适合的尺寸, 请与铭机联系

(1) Please refer to the motor shaft diameter

(2) Motor shaft length, for special motor shaft size, please contact MG

(3) Reducer input size, depending on the flange surface of the motor

*If no suitable size available, please contact MG

减速机性能资料 REDUCER PERFORMANCE DATA

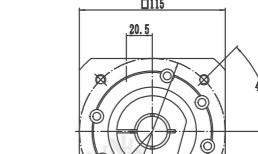
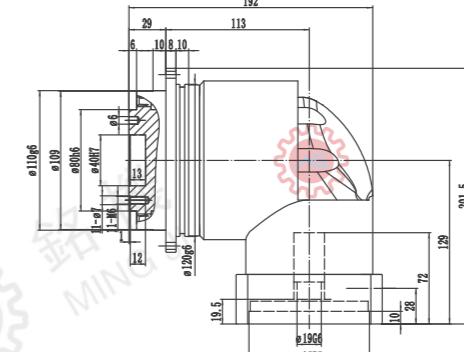
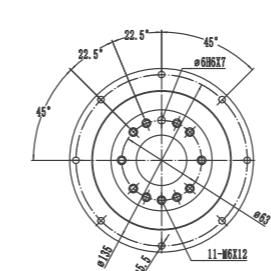
MKDR110			单级/One-stage										双级/Two-stage																				
速比 ⁽¹⁾ Speed ratio	i		4	5	6	7	8	9	10	16	20	16	20	25	35	40	50	70	100														
额定输出力矩(n_{IN}) Rated output torque	T_{2N}	Nm	290	330	300	300	260	230	230	260	230	290	290	330	300	330	330	300	230														
紧急制动力矩 (在减速机使用寿命内允许1000次) (1000 times during the working life of the reducer)	T_{2NOT}	Nm	3倍额定输出力矩/3 Times rated output torque																														
额定输入转速(T_{2n} , 20°C环境温度) Rated input speed (T_{2n} , 20°C ambient temperature)	n_{IN}	rpm	3000																														
最大输入转速 Maximum input speed	n_{1max}	rpm	6000																														
空载力矩(n=3000rpm, 20°C环境温度) No-load torque (n=3000 RPM, 20°C ambient temperature)	T_{012}	Nm	3	2.7	2.5	2	1.8	1.6	1.5	1.5	1.4	1.6	1.6	1.5	1.2	1	0.8	0.7	0.6														
回程间隙PS Backlash PS	j_t	Arcmin	≤ 2										≤ 3																				
回程间隙P0 Backlash P0	j_t	Arcmin	≤ 4										≤ 5																				
回程间隙P1 Backlash P1	j_t	Arcmin	≤ 6										≤ 7																				
回程间隙P2 Backlash P2	j_t	Arcmin	≤ 8										≤ 9																				
扭转刚度 Torsional stiffness	C_{121}	Nm/Arcmin	25																														
最大轴向力 ⁽²⁾ Maximum axial force	F_{2AMax}	N	2990																														
最大倾侧力矩 Maximum bending torque	F_{2RMax}	Nm	430																														
工作效率 Work efficiency	η	%	95										92																				
工作寿命 ⁽³⁾ Service life	L_h	h	20000																														
噪音(i=10和n1=3000rpm, 空载) Noise (i=10 and n1=3000rpm, no load)	L_{PA}	DB(A)	≤ 68																														
重量 Weight	m	Kg	8.8										10																				
安装方向 Installation direction			任意方向/Any direction																														
使用温度 ⁽⁴⁾ Operating temperature	°C		-10~90																														
润滑方式 Lubrication method			终生润滑/Lifetime lubrication																														
防护等级 Protection level			IP65																														
转动惯量 Moment of inertia	19	J_1	Kgcm^2	3	2.6	2.2	2	1.8	1.6	1.5	1.5	1.3	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.5													
按减速机输入直径(mm) Input diameter based on the reducer(mm)	22	J_1	Kgcm^2	5.6	4.5	4	3.5	3	2.7	2.5	2.3	2.1	1.8	1.8	1.7	1.7	1.6	1.4	1.4	1.4													
	24	J_1	Kgcm^2	10.5	10	10	9.9	9.9	9.6	9.5	9	8.5	2.1	2.1	2	2	1.9	1.8	1.8	1.7													

1. 可选其他减速比
2. 输出轴中心点
3. 连续运转时, 使用寿命为10000h
4. 对温度有特殊要求请与铭机联系

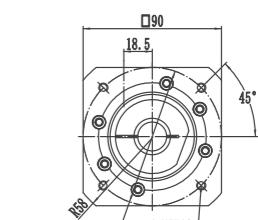
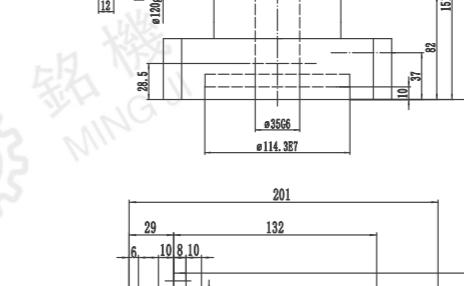
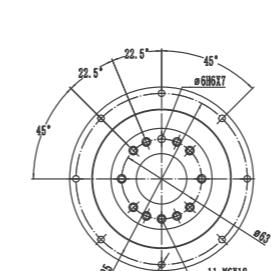
1. Optional other ratio
2.Output shaft center point
3. Service life of 10000h in continuous operation
4. For special requirements on temperature, please contact MG

减速机性能资料 REDUCER PERFORMANCE DATA

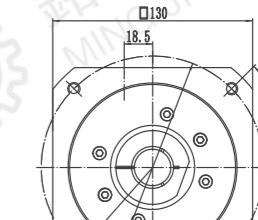
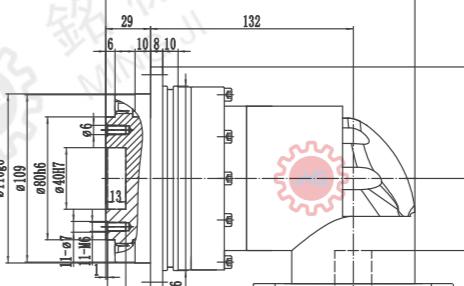
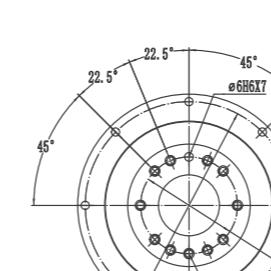
单级/One-stage



A < 19 ■



C < 19 ■



D < 24 ■

(1) 请参照马达轴径尺寸

(2) 马达轴最长长度, 如有特殊的马达轴尺寸, 请与铭机联络

(3) 减速机输入端尺寸, 依马达的法兰面而定

*如无适合的尺寸, 请与铭机联系

(1)Please refer to the motor shaft diameter

(2)Motor shaft length,for special motor shaft size,please contact MG

(3)Reducer input size,depending on the flange surface of the motor

*If no suitable size available,please contact MG

MKDR200			单级/One-stage										双级/Two-stage										
速比 ⁽¹⁾ Speed ratio	i		4	5	6	7	8	9	10	16	20	16	20	25	35	40	50	70	100				
额定输出力矩(n_{IN}) Rated output torque	T_{2N}	Nm	1050	1200	1100	1100	1000	900	900	1000	900	1050	1050	1200	1100	1020	1200	1100	900				
紧急制动力矩 (在减速机使用寿命内允许1000次) (Emergency braking torque (1000 times during the working life of the reducer))	T_{2NOT}	Nm																					
额定输入转速(T_{2n} , 20°C环境温度) Rated input speed (T_{2n} , 20°C ambient temperature)	n_{IN}	rpm																					
最大输入转速 Maximum input speed	n_{1max}	rpm																					
空载力矩(nl=3000rpm, 20°C环境温度) No-load torque (nl=3000 RPM, 20°C ambient temperature)	T_{012}	Nm	13	12	11	9	7.5	6.5	5.5	5.5	5	11	11	9	9	8	7	6.8	5				
回程间隙PS Backlash PS	j_t	Arcmin																					
回程间隙P0 Backlash P0	j_t	Arcmin																					
回程间隙P1 Backlash P1	j_t	Arcmin																					
回程间隙P2 Backlash P2	j_t	Arcmin																					
扭转刚度 Torsional stiffness	C_{121}	Nm/Arcmin																					
最大轴向力 ⁽²⁾ Maximum axial force	F_{2AMax}	N																					
最大倾侧力矩 Maximum bending torque	F_{2RMax}	Nm																					
工作效率 Work efficiency	η	%																					
工作寿命 ⁽³⁾ Service life	L_h	h																					
噪音(i=10和n1=3000rpm, 空载) Noise (i=10 and n1=3000rpm, no load)	L_{PA}	DB(A)																					
重量 Weight	m	Kg																					
安装方向 Installation direction																							
使用温度 ⁽⁴⁾ Operating temperature		°C																					
润滑方式 Lubrication method																							
防护等级 Protection level																							
转动惯量 Moment of inertia 按减速机输入直径(mm) Input diameter based on the reducer(mm)	24	J_1	Kgcm²	35	30	25	23	22	20	19	5.2	5	9	8.8	8.2	7.9	7.5	6.8	6.2	5.5			
	32	J_1	Kgcm²	41	37	36	35	32	30	28	9	8	11.4	10.9	10.2	9.8	9.7	9.3	9.0	8.5			
	35	J_1	Kgcm²	50	44	42	40	38	36	36	2.1	20	12.1	11	10.5	10.2	10	9.9	9.8	9.5			

1. 可选其他减速比

2. 输出轴中心点

3. 连续运转时, 使用寿命为10000h

4. 对温度有特殊要求请与铭机联系

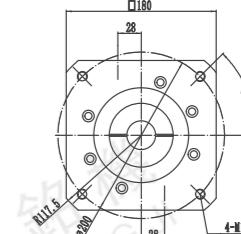
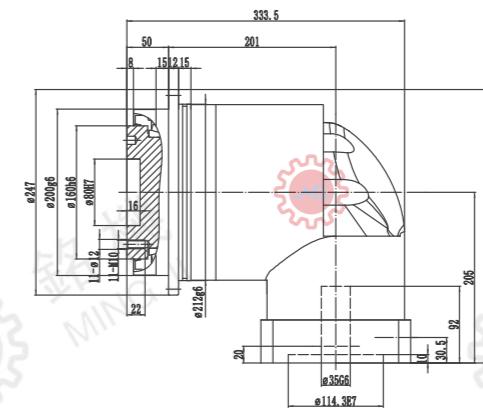
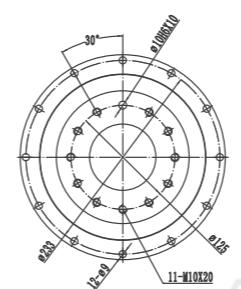
1. Optional other ratio

2. Output shaft center point

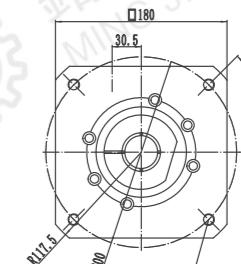
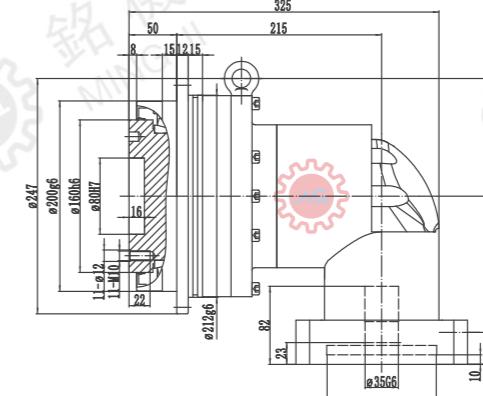
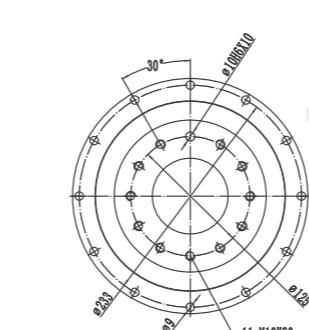
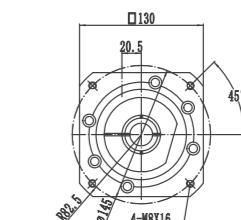
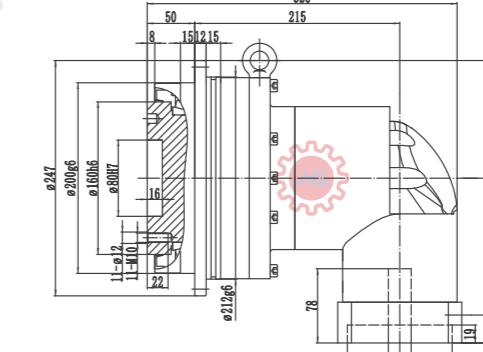
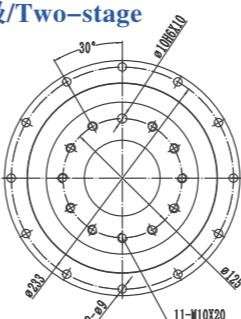
3. Service life of 10000h in continuous operation

4. For special requirements on temperature, please contact MG

单级/One-stage



双级/Two-stage



(1) 请参照马达轴径尺寸

(2) 马达轴最长长度, 如有特殊的马达轴尺寸, 请与铭机联络

(3) 减速机输入端尺寸, 依马达的法兰面而定

*如无适合的尺寸, 请与铭机联系

(1) Please refer to the motor shaft diameter

(2) Motor shaft length, for special motor shaft size, please contact MG

(3) Reducer input size, depending on the flange surface of the motor

*If no suitable size available, please contact MG

D≤35 ■

B≤55 ■

C≤24 ■

A≤35 ■

减速机性能资料 REDUCER PERFORMANCE DATA

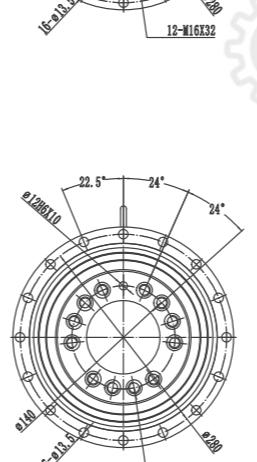
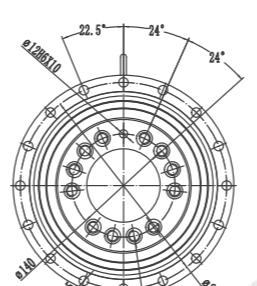
MKDR255			单级/One-stage												双级/Two-stage												
速比 ⁽¹⁾ Speed ratio	i		4	5	6	7	8	9	10	16	20	16	20	25	35	40	50	70	100								
额定输出力矩(n_{IN}) Rated output torque	T_{2N}	Nm	1700	2000	1800	1800	1600	1500	1500	1600	1500	1700	1700	2000	1800	1700	2000	1800	1500								
紧急制动力矩 (在减速机工作寿命内允许1000次) (1000 times during the working life of the reducer)	T_{2NOT}	Nm																									
额定输入转速(T_{2n} , 20°C环境温度) Rated input speed (T_{2n} , 20°C ambient temperature)	n_{1N}	rpm																									
最大输入转速 Maximum input speed	n_{1max}	rpm																									
空载力矩($n=3000\text{rpm}, 20^\circ\text{C环境温度}$) No-load torque ($n=3000 \text{ RPM}, 20^\circ\text{C ambient temperature}$)	T_{012}	Nm	22	17	8	6	5	4.5	3.5	3.4	3.2	11	11	9	9	8	7	6.8	5								
回程间隙PS Backlash PS	j_t	Arcmin																									
回程间隙P0 Backlash P0	j_t	Arcmin																									
回程间隙P1 Backlash P1	j_t	Arcmin																									
回程间隙P2 Backlash P2	j_t	Arcmin																									
扭转刚度 Torsional stiffness	C_{t21}	Nm/Arcmin																									
最大轴向力 ⁽²⁾ Maximum axial force	$F_{2A\text{Max}}$	N																									
最大倾侧力矩 Maximum bending torque	$F_{2R\text{Max}}$	Nm																									
工作效率 Work efficiency	η	%																									
工作寿命 ⁽³⁾ Service life	L_h	h																									
噪音(i=10和 $n_1=3000\text{rpm}$, 空载) Noise(i=10 and $n_1=3000\text{rpm}$, no load)	L_{PA}	DB(A)																									
重量 Weight	m	Kg																									
安装方向 Installation direction																											
使用温度 ⁽⁴⁾ Operating temperature		°C																									
润滑方式 Lubrication method																											
防护等级 Protection level																											
转动惯量 Moment of inertia	42	J_1	Kgcm ²	70	68	65	55	52	45	40	40	35	16	5.5	14	14	13	12	10.8	9.5							
按减速机输入直径(mm) Input diameter based on the reducer(mm)	55	J_1	Kgcm ²	95	77	75	68	65	60	55	54	50	28	27	26.5	25.5	24	23	21	19.5							

1. 可选其他减速比
2. 输出轴中心点
3. 连续运转时, 使用寿命为10000h
4. 对温度有特殊要求请与铭机联系

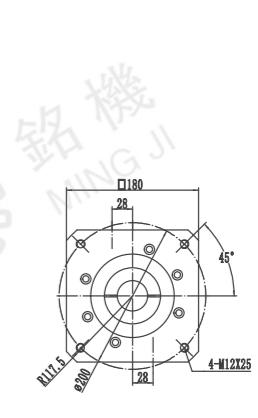
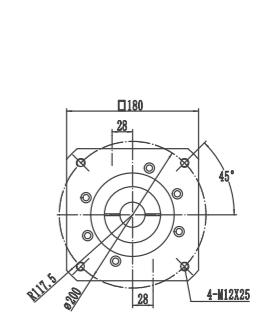
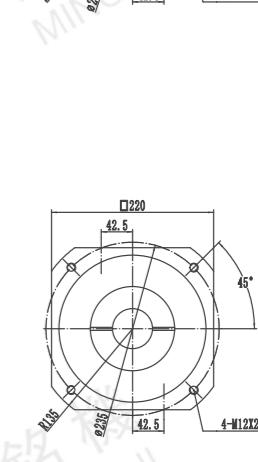
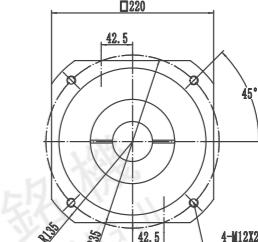
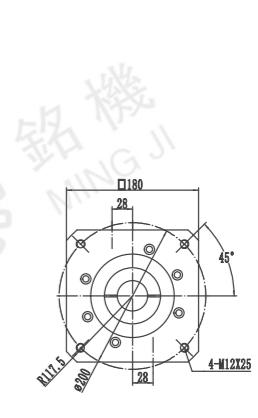
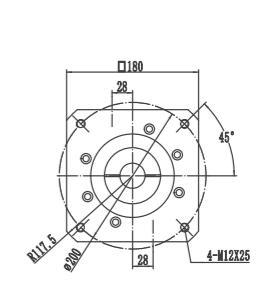
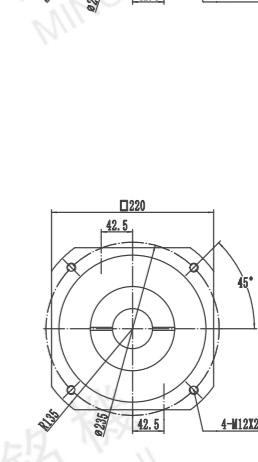
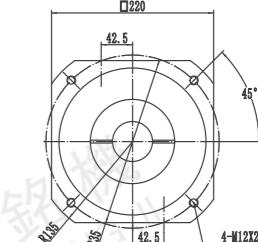
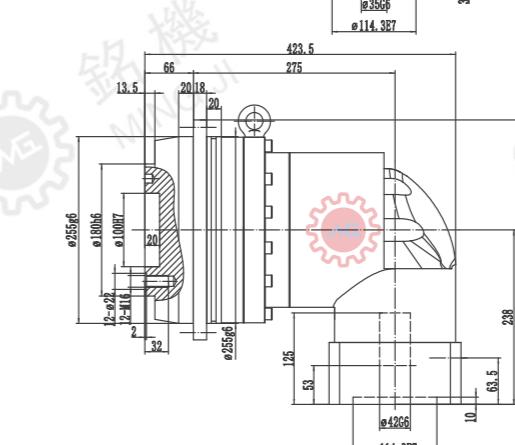
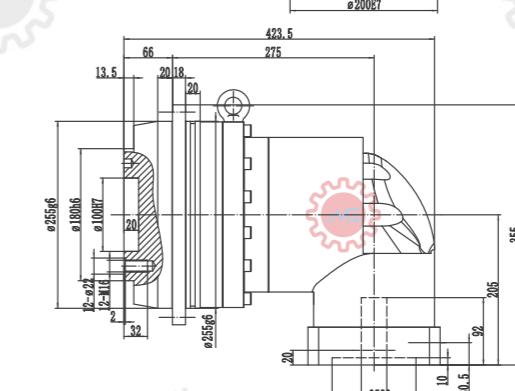
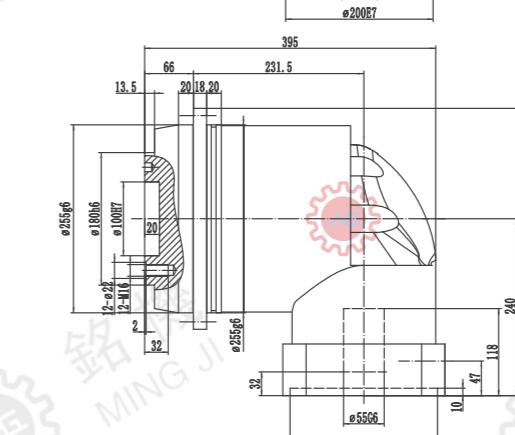
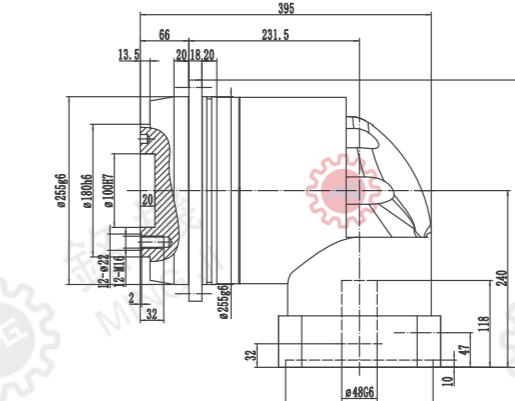
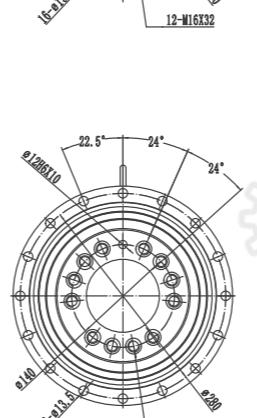
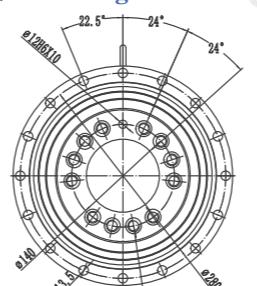
1. Optional other ratio
2. Output shaft center point
3. Service life of 10000h in continuous operation
4. For special requirements on temperature, please contact MG

减速机性能资料 REDUCER PERFORMANCE DATA

单级/One-stage



双级/Two-stage



C≤35 ■

D≤42 ■

A≤48 ■

B≤55 ■

- (1) 请参照马达轴径尺寸
(2) 马达轴最长长度, 如有特殊的马达轴尺寸, 请与铭机联络
(3) 减速机输入端尺寸, 依马达的法兰面而定
*如无适合的尺寸, 请与铭机联系

- (1) Please refer to the motor shaft diameter
(2) Motor shaft length, for special motor shaft size, please contact MG
(3) Reducer input size, depending on the flange surface of the motor
*If no suitable size available, please contact MG