

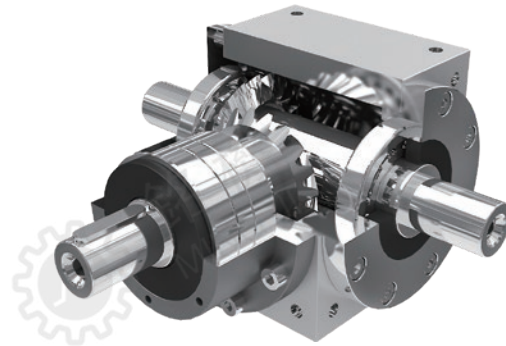
产品特点 PRODUCT FEATURES

筒夹式连接机构

Collet Locking Mechanism

输入端与马达的连接采用筒夹式的锁紧机构, 并经动平衡分析, 以确保在高输入转速下结合截面的同心度和平衡度, 及零背隙的动力传递。

The input-end and the motor are coupled through a collet locking mechanism. It has passed dynamical balance analysis to assure concentricity and balance on the connection and no backlash for power transmission while running at high speed.



高强度、高强度螺旋伞齿轮

High precision grinded and carburized spiral bevel gears



齿轮采高强度渗碳合金钢, 研磨精密度符合AGMA12级标准以内。

High precision grinded and carburized spiral bevel gears to meet standard AGMA12.

低背隙

Low backlash

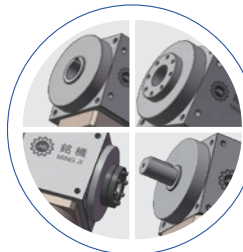


使用Gleason参数齿轮加工设备, 加工研磨等级的螺旋伞齿轮, 确保低背隙、低降噪。背隙最小可达2弧分以内。

Using Gleason high precision CNC grinding machine to grinding the spiral bevel gears. Torsional backlash depending on design up to <2 arcmin.

安装位置

Mounting Position



多重精密加工表面易于组装, 适用于任意安装方向。入出力轴的设计可以适应于各种工业上应用的需求。

Multiple precision machined surface is easy for assembly, suitable for any optional mounting orientation. Output shaft and input shaft are designed to suit for various industries applications.

高扭矩密度

High Output Torque

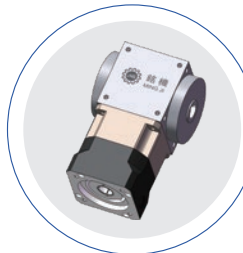


一体式齿箱本体确保最大刚性与耐蚀性。结构紧凑, 富有刚性的设计保证了在小体积, 重量轻的情况下能够达到最高扭矩及较大的减速比。

The gear box is one-piece constructed to ensure the high rigidity and corrosion-resistant capability.

免保养

No Maintenance

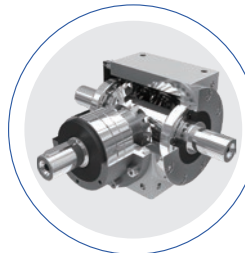


免保养无需更换润滑油, 运转寿命长。

It features no maintenance and long service life.

更高的减速比

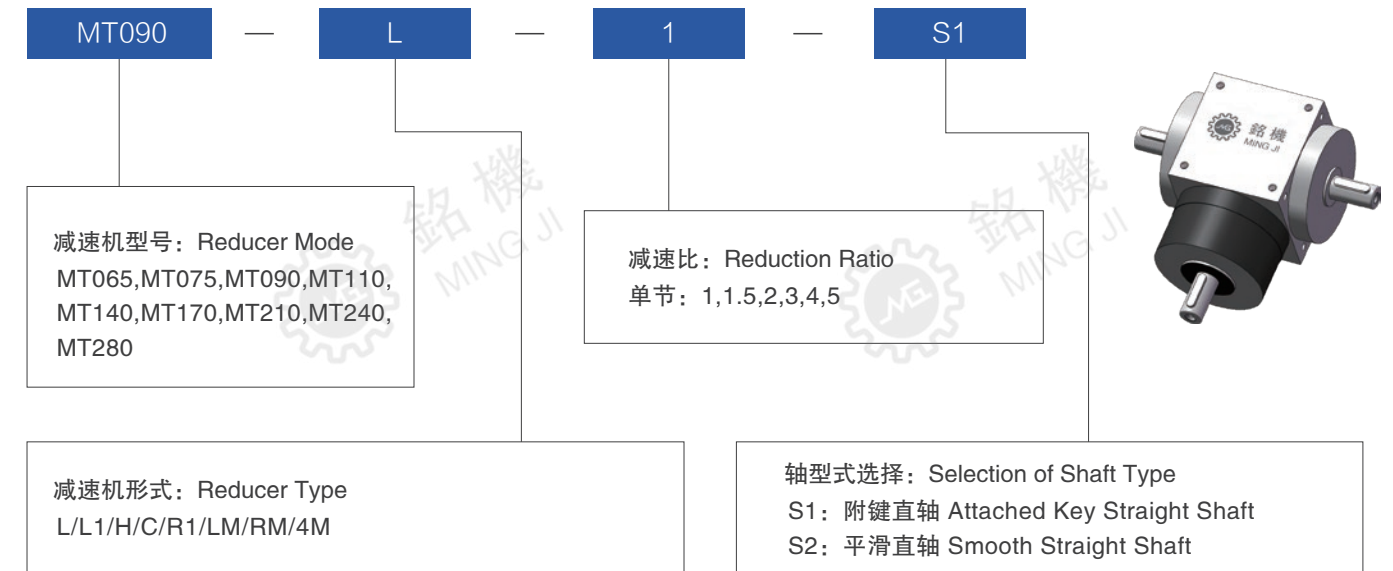
More High Gear Ratio



高精度研磨的蜗线伞齿轮组结合最佳化设计的行星式齿轮组可以达到500:1的减速比。

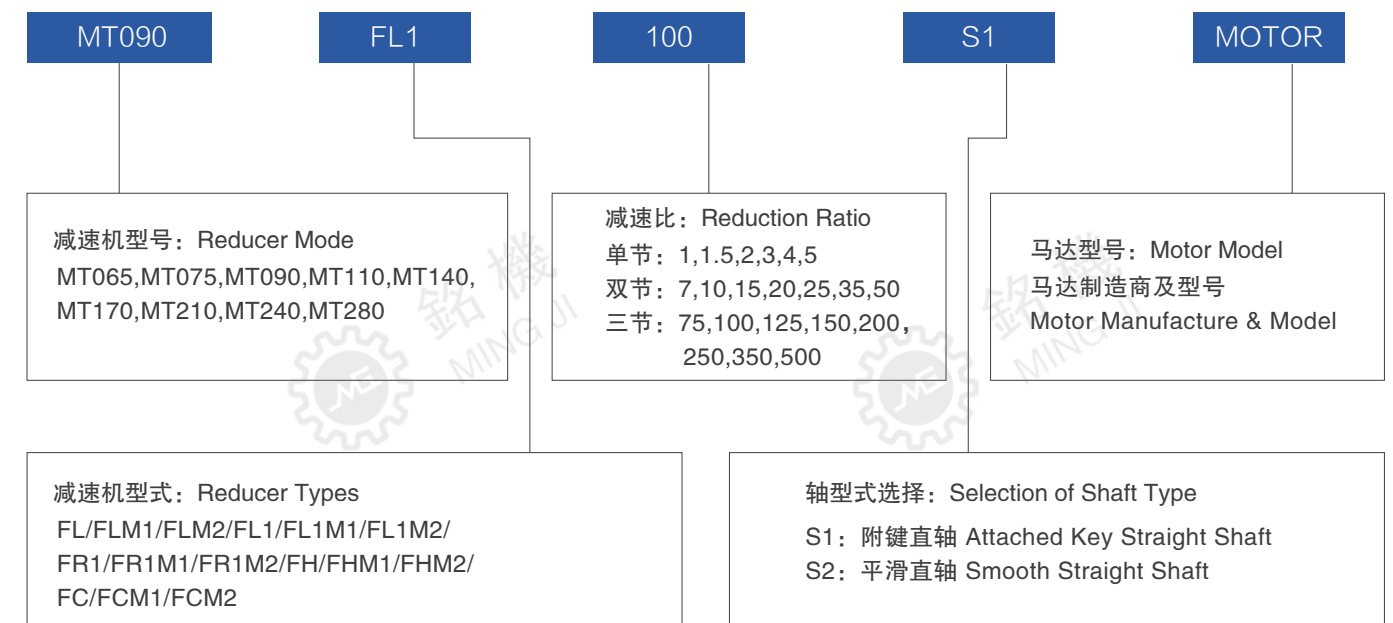
High precision grinded and carburized spiral bevel gears with optimal designed planetary gear can do ratio 500:1.

减速机订购 PURCHASE OF REDUCERS



选用案例 Selection Example:

MT090-L-1-S1



选用案例 Selection Example:

MT090-FL1-100-S1

产品规格 PRODUCT SPECIFICATION



多重不锈钢输出输入轴的设计可以适用于各种工业上应用的需求。
Multiple stainless steel output and input shaft design can be applied to various of industrial applications needs.

高精密切磨的蜗线伞齿轮组合最佳化设计的行星式齿轮组可以达到500:1的减速比。
The combination of high-precision grinded worm bevel gear set and the optimized the design of planetary gear set can make the reduction speed up to 500:1.

高扭矩低背隙的精简结构设计适用于精密伺服的应用。
High torque and low backlash design of the compact structure is suitable for the application of precision servo.

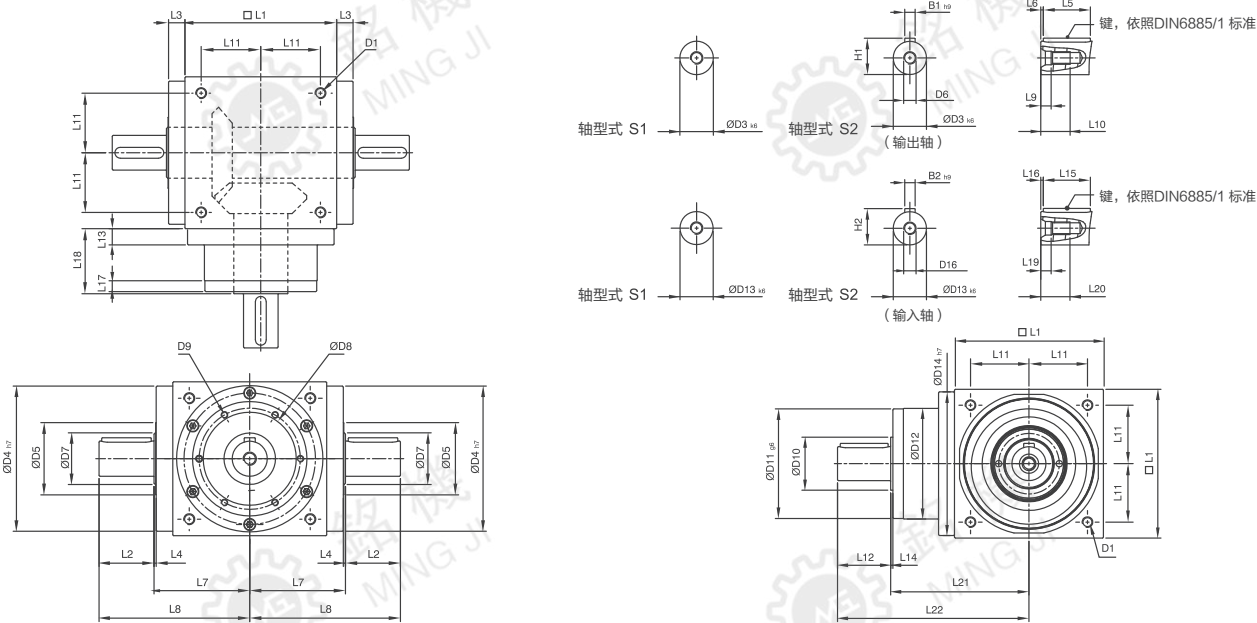
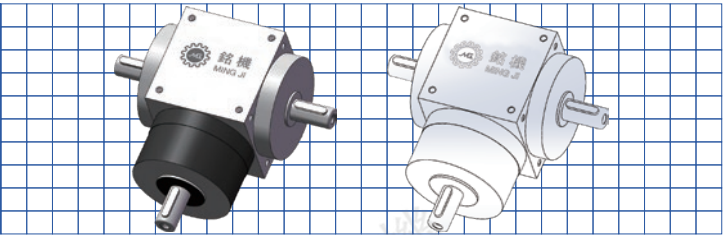
Patented oil seal design, maintenance-free without replacing the lubrication oil, long operating life.

规格 Specification	节数 Stage	比数¹ Ratio ^A	MT065L	MT075L	MT090L	MT110L	MT140L	MT170L	MT210L	MT240L	MT280L	
			MT065L1	MT075L1	MT090L1	MT110L1	MT140L1	MT170L1	MT210L1	MT240L1	MT280L1	
			MT065H	MT075H	MT090H	MT110H	MT140H	MT170H	MT210H	MT240H	MT280H	
			MT065C	MT075C	MT090C	MT110C	MT140C	MT170C	MT210C	MT240C	MT280C	
			MT065 R1	MT075 R1	MT090 R1	MT110 R1	MT140 R1	MT170 R1	MT210 R1	MT240R1	MT280 R1	
			MT065 LM	MT075 LM	MT090LM	MT110 LM	MT140LM	MT170 LM	MT210LM	MT240LM	MT280LM	
			MT065 RM	MT075 RM	MT090 RM	MT110 RM	MT140 RM	MT170 RM	MT210 RM	MT240 RM	MT280 RM	
			MT065 4M	MT075 4M	MT090 4M	MT110 4M	MT140 4M	MT170 4M	MT210 4M	MT240 4M	MT280 4M	
额定输出力矩T _{2N} Rated Output Torque	Nm	1	1	25	45	78	150	360	585	1,300	2,150	3,200
			1.5	25	45	78	150	360	585	1,300	2,150	3,200
			2	24	42	68	150	330	544	1,220	2,010	3,050
			3	18	33	54	120	270	450	1,020	1,650	2,850
			4	13	28	48	100	224	376	860	1,410	2,300
			5	12	25	40	85	196	320	740	1,210	2,000
			最大加速力矩 T _{2B} Max.	Nm	1	1~5	1.5倍额定输出力矩 1.5 Times of Rated Output Torque					
最大加速输入转速n _{1B} Max.	rpm	1	1~5	7,500	6,500	5,500	4,500	3,500	3,000	2,200	2,000	1,700
背隙*Backlash	arcmin	1	1~5	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6
容许径向力F _{1rB} ² Radial 输入轴d1 Input d1	N	1	1~5	700	950	1,450	2,100	2,700	3,800	7,800	9,600	10,500
容许径向力F _{2rB} ³ Radial 输入轴d2 Input d2	N	1	1~5	900	1,100	1,700	2,700	4,800	6,600	11,500	16,000	18,000
容许轴向力F _{1aB} ³ Axial 输入轴d1 Input d1	N	1	1~5	350	425	725	1,050	1,350	1,900	3,900	4,800	5,250
容许轴向力F _{2aB} ³ Axial 输入轴d2 Input d2	N	1	1~5	450	550	850	1,350	2,400	3,300	5,750	8,500	9,000
使用寿命 Service Life	hr	1	1.5	20, 000*								
效率 η Efficiency	%	1	1.5	≥98%								
使用温度 Operating Temp	℃	1	1.5	-10℃~90℃								
润滑 Lubrication				合成润滑油 Fully Synthetic Grease								
噪音值 (n1=1500rpm, 无负载) dB (A)		1	1.5	≤68	≤70	≤74	≤76	≤77	≤78	≤80	≤82	≤83

1. 減速比 ($i = N_{in}/N_{out}$) 2. 作用于输入轴中心位置 @ n_{1B} 3. 作用于输出轴中心位置 @ n_{1B}
 *连续运转降低使用寿命二分之一。 *背隙值为在2%额定力矩 T_{2N} 的扭力下所测得
 MT-LM/RM/4M 只提供1:1比数

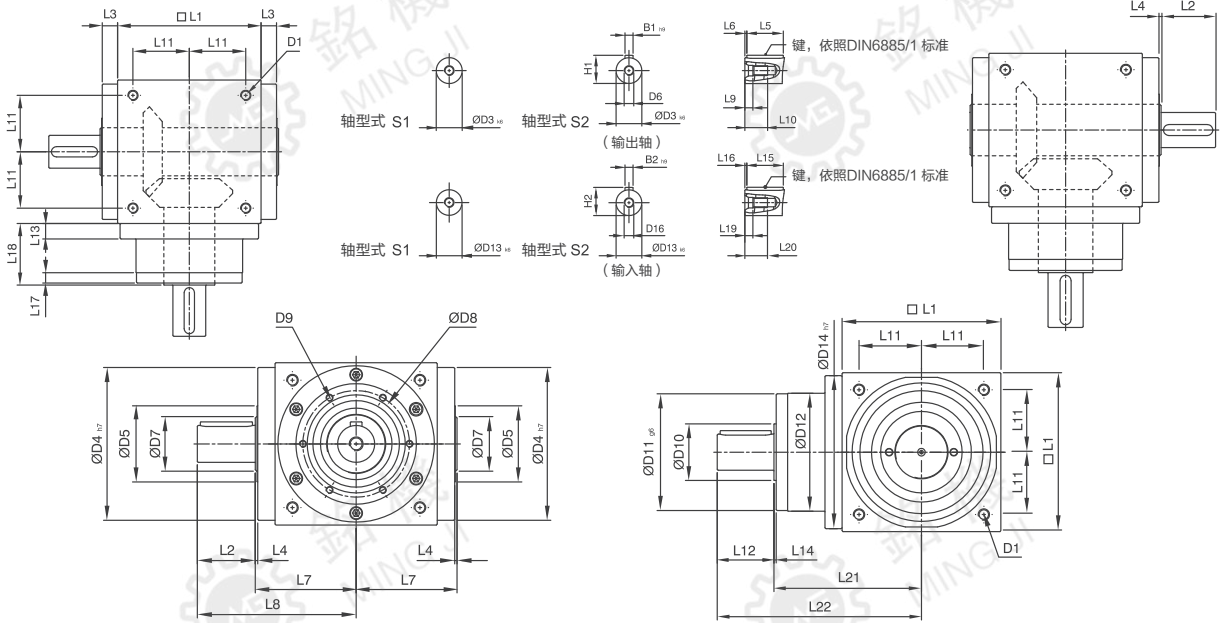
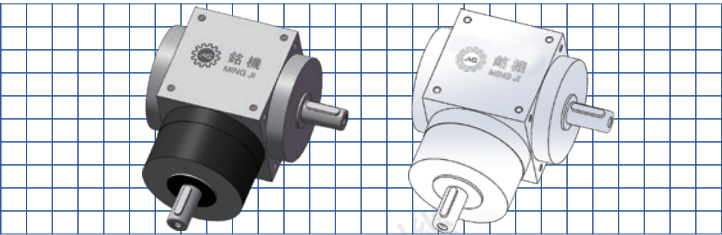
规格 Specification		节数 Stage	比数 ¹ Ratio ^A	MT065L	MT075L	MT090L	MT110L	MT140L	MT170L	MT210L	MT240L	MT280L	
				MT065L1	MT075L1	MT090L1	MT110L1	MT140L1	MT170L1	MT210L1	MT240L1	MT280L1	
				MT065H	MT075H	MT090H	MT110H	MT140H	MT170H	MT210H	MT240H	MT280H	
				MT065C	MT075C	MT090C	MT110C	MT140C	MT170C	MT210C	MT240C	MT280C	
				MT065 R1	MT075 R1	MT090 R1	MT110 R1	MT140 R1	MT170 R1	MT210 R1	MT240R1	MT280 R1	
				MT065 LM	MT075 LM	MT090LM	MT110 LM	MT140LM	MT170 LM	MT210LM	MT240LM	MT280LM	
				MT065 RM	MT075 RM	MT090 RM	MT110 RM	MT140 RM	MT170 RM	MT210 RM	MT240 RM	MT280 RM	
				MT065 4M	MT075 4M	MT090 4M	MT110 4M	MT140 4M	MT170 4M	MT210 4M	MT240 4M	MT280 4M	
转动惯量J ₁ Rotary Inertia		kg · cm ²	1	1	0.51	1.30	3.16	7.70	23.57	58.99	195.40	369.34	799.12
				1.5	0.64	1.16	2.82	6.74	19.37	49.28	155.45	283.58	595.78
				2	0.44	1.11	2.70	6.31	17.75	45.35	140.24	249.74	511.76
				3	0.43	1.09	2.66	6.17	17.18	44.01	134.95	237.71	483.06
				4	0.43	1.09	2.65	6.13	17.06	43.70	133.58	234.72	476.26
				5	0.43	1.09	2.65	6.12	17.02	43.60	133.14	233.67	473.58

MT-L系列双轴出轴型式
Double Output Shaft Type
尺寸 (单节1-stage, 减速比ratio i=1 ~ 5)



尺寸 Size	MT065L	MT075L	MT090L	MT110L	FT140L	MT170L	MT210L	MT240L	MT280L
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k6	13	16	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4×M4×L7	4×M5×L8	4×M5×L8	6×M6×L10	6×M6×L10	6×M8×L12.5	6×M8×L12.5	6×M8×L12.5	6×M10×L15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g6	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k6	13	16	18	22	32	40	50	55	60
D14 h7	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 h9	5	5	6	6	10	12	14	16	18
B2 h9	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64

MT-L1(左)/MT-R1(右)系列
单边出轴型式 single-side Output Shaft Type
尺寸 (单节1-stage, 减速比ratio i=1 ~ 5)

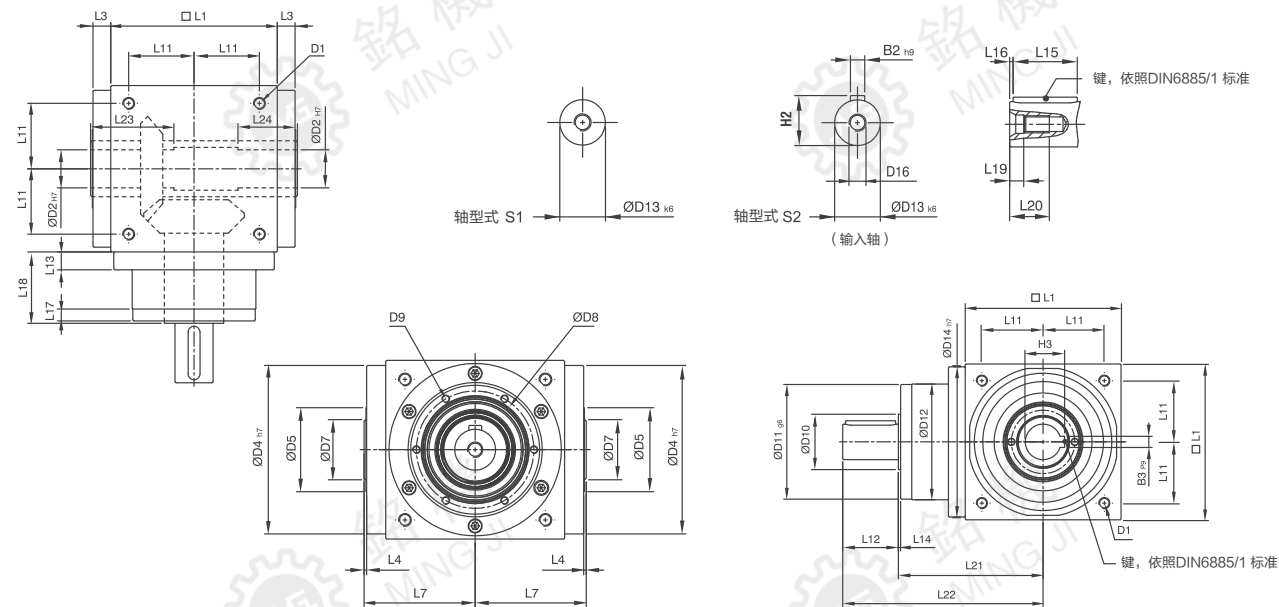
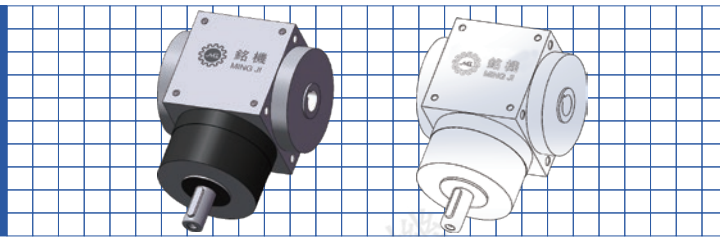


尺寸 Size	MT065L1/R1	MT075L1/R1	MT090L1/R1	MT110L1/R1	MT140L1/R1	MT170L1/R1	MT210L1/R1	MT240L1/R1	MT280L1/R1
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k6	13	16	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4×M4×L7	4×M5×L8	4×M5×L8	6×M6×L10	6×M6×L10	6×M8×L12.5	6×M8×L12.5	6×M8×L12.5	6×M10×L15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g6	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k6	13	16	18	22	32	40	50	55	60
D14 h7	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 h9	5	5	6	6	10	12	14	16	18
B2 h9	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64

MT-H系列孔输出型式

Hole Input Type

尺寸 (单节1-stage, 减速比ratio $i=1 \sim 5$)

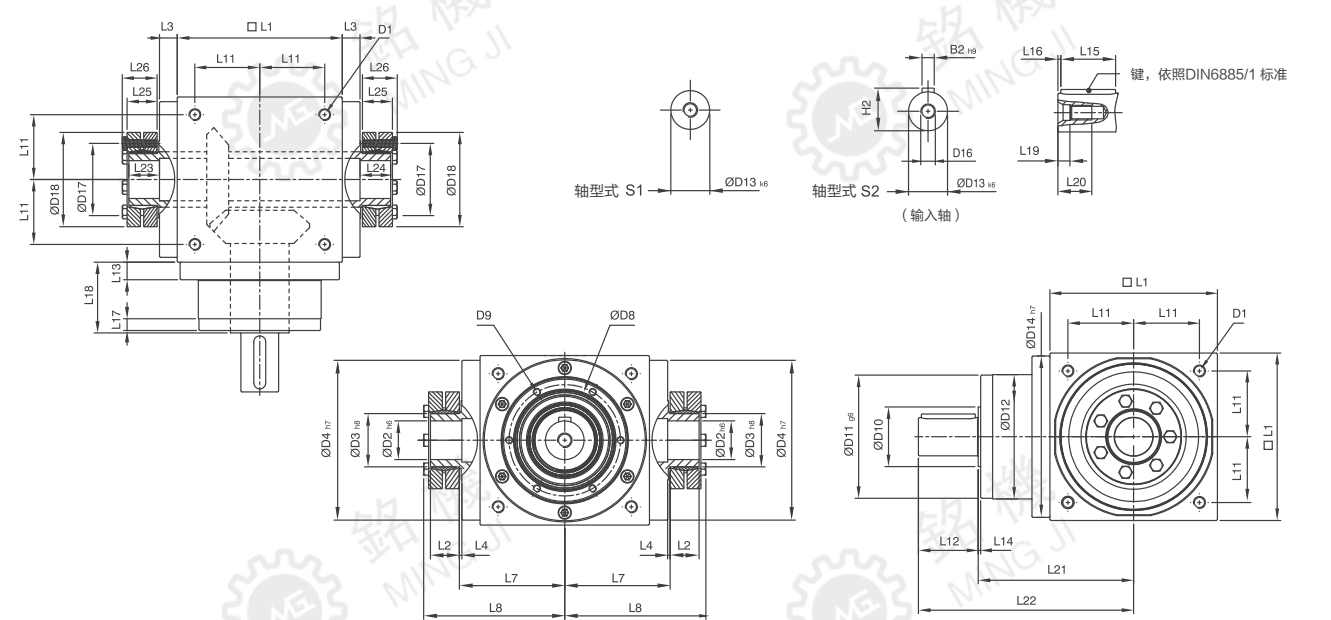
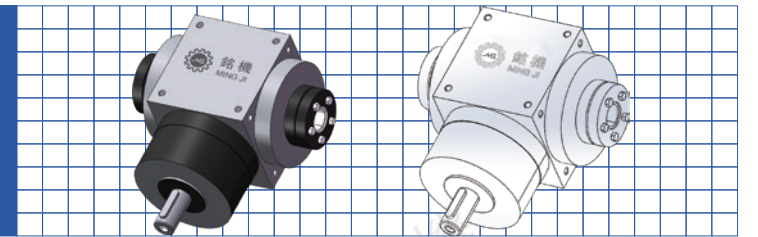


尺寸 Size	MT065H	MT075H	MT090H	MT110H	MT140H	MT170H	MT210H	MT240H	MT280H
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 _{H7}	13	14	18	22	32	40	50	55	60
D4 _{H7}	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4×M4×L7	4×M5×L8	4×M5×L8	6×M6×L10	6×M6×L10	6×M8×L12.5	6×M8×L12.5	6×M8×L12.5	6×M10×L15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 _{g6}	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 _{k6}	13	16	18	22	32	40	50	55	60
D14 _{H7}	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
L23	40	47	52	53	70	80	95	115	115
L24	30	32	35	35	50	55	65	80	80
B2 _{H9}	5	5	6	6	10	12	14	16	18
B3 _{P9}	5	5	6	6	10	12	14	16	18
H2	15	18	20.5	24.5	35	43	53.5	59	64
H3	15.3	16.3	20.8	24.8	35.3	43.3	53.8	59.3	64.4

MT-C系列孔輸出帶抱箍型式

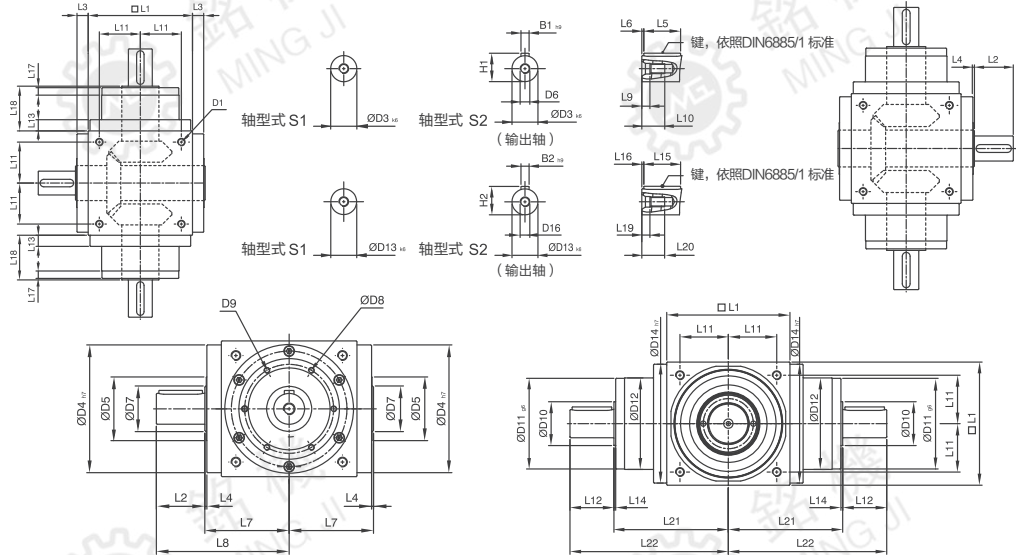
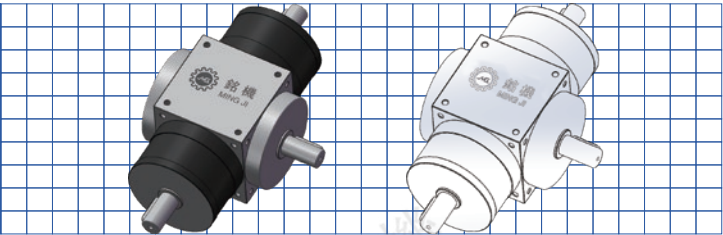
Hole Output Hoop Type

尺寸 (单节1-stage, 减速比ratio $i=1 \sim 5$)



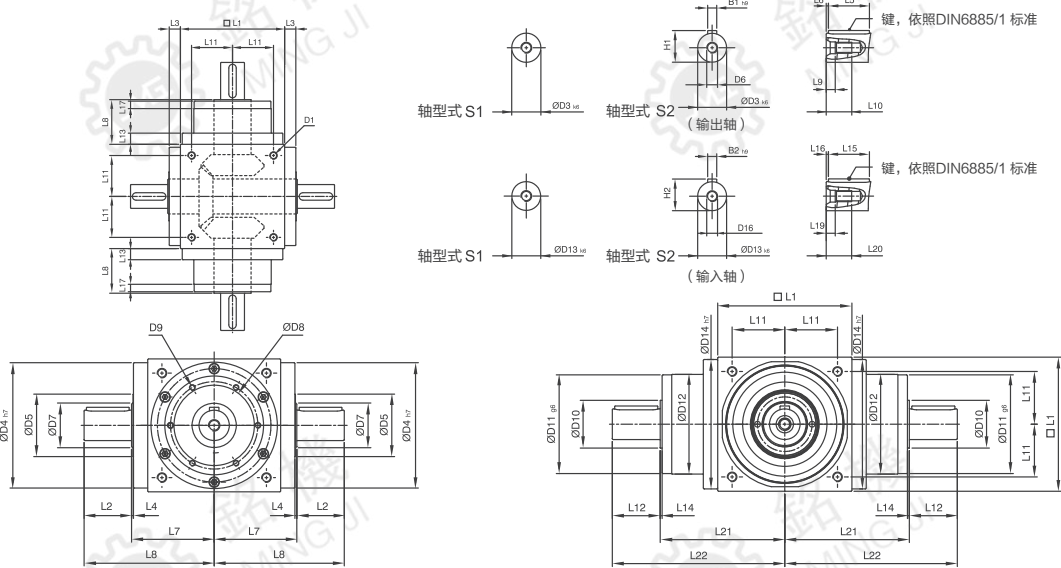
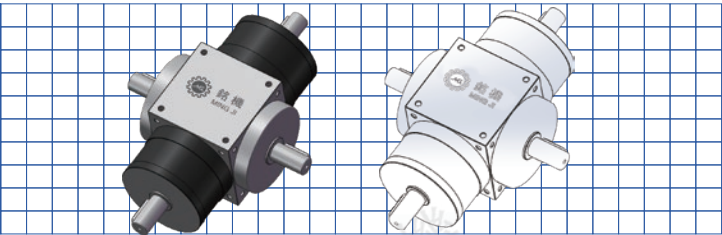
尺寸 Size	MT065C	MT075C	MT090C	MT110C	MT140C	MT170C	MT210C	MT240C	MT280C
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 H6	13	14	18	22	32	40	50	55	60
D3 h8	16	16	22	25	44	50	62	68	75
D4 h7	63	73	88	108	135	165	205	235	275
D8	53	62	76	95	92	114	142	160	176
D9	4×M4×L7	4×M5×L8	4×M5×L8	6×M6×L10	6×M6×L10	6×M8×L12.5	6×M8×L12.5	6×M8×L12.5	6×M10×L15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g6	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k6	13	16	18	22	32	40	50	55	60
D14 h7	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
D17	26	26	36	38	61	70	86	86	100
D18	41	41	50	50	80	90	110	115	138
L1	65	75	90	110	140	170	210	240	280
L2	14	14	18	18	24	26	29	29	30.5
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L8	66	72.5	85	95	116.5	133.5	161.5	181.5	205
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
L23	15	15	20	20	26	28	31	31	32.5
L24	15	15	20	20	26	28	31	31	32.5
L25	15	15	19.5	19.5	25.5	27.5	30.5	30.5	32.5
L26	18.5	18.5	23	23	29.5	31.5	34.5	34.5	38
B2 h9	5	5	6	6	10	12	14	16	18
H2	15	18	20.5	24.5	35	43	53.5	59	64

MT-LM(左)/MT-RM(右)系列
双出轴方向相反型式
Double Output Shaft Opposite Direction Type
尺寸 (单节1-stage, 减速比ratioi=1)



尺寸 Size	MT065LM/RM	MT075LM/RM	MT090LM/RM	MT110LM/RM	MT140LM/RM	MT170LM/RM	MT210LM/RM	MT240LM/RM	MT280LM/RM
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k ₆	13	16	18	22	32	40	50	55	60
D4 h ₇	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4×M4×L7	4×M5×L8	4×M5×L8	6×M6×L10	6×M6×L10	6×M8×L12.5	6×M8×L12.5	6×M8×L12.5	6×M10×L15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g ₆	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k ₆	13	16	18	22	32	40	50	55	60
D14 h ₇	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 h ₉	5	5	6	6	10	12	14	16	18
B2 h ₉	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64

MT-4M系列
MT-4M Series
尺寸 (单节1-stage, 减速比ratioi=1)



尺寸 Size	MT065 4M	MT075 4M	MT090 4M	MT110 4M	MT140 4M	MT170 4M	MT210 4M	MT240 4M	MT280 4M
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k ₆	13	16	18	22	32	40	50	55	60
D4 h ₇	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4×M4×L7	4×M5×L8	4×M5×L8	6×M6×L10	6×M6×L10	6×M8×L12.5	6×M8×L12.5	6×M8×L12.5	6×M10×L15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g ₆	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k ₆	13	16	18	22	32	40	50	55	60
D14 h ₇	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 h ₉	5	5	6	6	10	12	14	16	18
B2 h ₉	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64