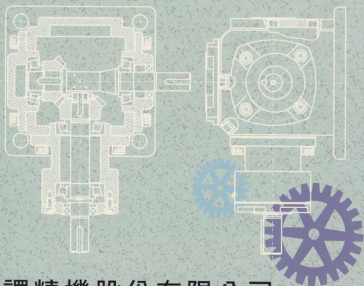


十字轉向機

MITER GEAR BOX



北譯精機股份有限公司

PEI-EI Precision Machinery Co., Ltd

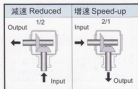
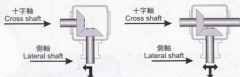


機殼：高剛性FC-25鑄鐵鑄造
 齒輪：鉻鎢鋼螺旋傘齒輪、表面經硬化處理及研磨
 主軸：碳鋼經高精度研磨處理、高懸重負荷能力、
 軸承：配備重負荷能力的滾錐軸承
 油封：雙封唇片的油封、兼具防塵及防漏油的能力

Housing :High tensile strength cast iron (FC-25).
 Gear :Cr-Mo-Steel Spiral Bevel Gear, surface hardened and polished
 Main shaft:Carbon alloy steel with precision grinding, high capacity for overhung and thrust loading.
 Bearing :Taper roller bearings for high load capacity.
 Sealer :Double lip oil sealer, prevent both dust and leakage.

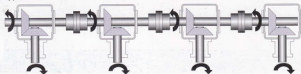
轉向機基本傳動方式

Basic type of transmission of Miter Gear box:



轉向機應用例

Examples of Applications for Miter Gear box:



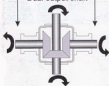
特殊品

Special Design:

兩側旋向相反

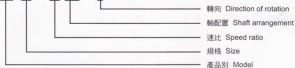
Two sides rotate in opposite directions

雙出力軸
Dual output shaft

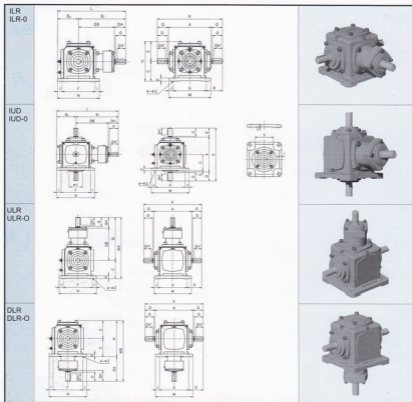


單出力軸 Single output shaft		雙出力軸 Dual output shaft	
2 Shaft Type	3 Shaft Type	3 Shaft Type	4 Shaft Type

GM 02 - 10 ILR - O



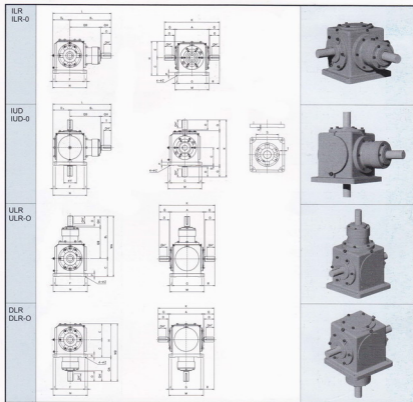
ILR	IR	IL	ILR-O	IR-O	IL-O
IUD	IU	ID	IUD-O	IU-O	ID-O
ULR	UR	UL	ULR-O	UR-O	UL-O
DLR	DR	DL	DLR-O	D-R-O	D-L-O



單位: Unit: (mm)

機型 MODEL	A	B ₁	B ₂	C	*D	E	F,G	H	I,J	K	L	M,N	P	Q	QA	QB	QH	QH'	U
GM0210	110	124	50	52	3.25	60	84	102	10	180	174	104	10.5	35	72	89	35	23	—
GM0410 (GM0420)	153	180	78	76	0	76	125	152	16.5	233	256	158	14	40	104	140	40	28	3
GM0610 (GM0620)	208	222	95	90	12.5	80	152	176	19	314	317	180	21	54	132	188	54	27	3
GM0810 (GM0820)	260	307	117.5	115	15	111	195	226	20	410	424.5	226	22	76	180	229	78	55	4
GM1010 (GM1020)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

機型 MODEL	R	WA	WB	Y	Z	S	T	側軸 Lateral shaft			十字軸 Cross shaft			GD ² (Kgf-m ²)	重量 Weight (Kgf)
								φSD	O	Key	φSD	O	Key		
GM0210	48	170	174	50	9	—	—	15	33	5×5	15	33	5×5	0.0002	1.9
GM0410 (GM0420)	53.5	256	256	58	10.5	32	8	19(16)	38	5×5	19	38	5×5	0.0006 (0.00048)	9.5
GM0610 (GM0620)	81	352	308	80	14	110	30	25	60	7×7	25	60	7×7	0.0054 (0.00266)	20
GM0810 (GM0820)	113.5	422	418	125	14	120	12	40	75	10×8	40	75	10×8	0.019 (0.014)	47
GM1010 (GM1020)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



單位: Unit: (mm)

機型 MODEL	A	B ₁	B ₂	C	*D	E	F, G	H	I, J	K	L	M, N	P	Q	QA	QB	QH	QH'	U
GM1210 (GM1220)	339	415	170	175	25	165	290	340	25	550	595	340	32	195.5	238.5	309	106	75.5	—
GM1610 (GM1620)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

機型 MODEL	R	WA	WB	Y	Z	S	T	側軸 Lateral shaft			十字軸 Cross shaft			GD ² (KgI-m ²)	重量 Weight (Kgf)
								φSD	O	Key	φSD	O	Key		
GM1210 (GM1220)	130	580	579.5	134	21	220	20	50	100	12×8	50	100	12×8	0.10 (0.096)	117
GM1610 (GM1620)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

選用計算 · 傳達能力 *Calculation on how to choose the right model (transmission capability)*

轉向機模型選用

To Select correct model for miter gear box:

- 步驟1：決定補正係數〈表一〉。
 步驟2：選擇適當轉向機需滿足扭力或kw值需求在〈表二〉〈表三〉指示速比擊出力軸轉速。

- Step 1: Determine the service factor (table 1)
 Step 2: Select the proper gear box which satisfies both torque or kw requirement at the specified speed ratio and shaft rpm (table 2,3)

表(一) table(1)

負荷性質 load conditions	使用時間 operation time			
	0.5	2	10	24
均一負荷 uniform load	0.8 (0.9)	0.9 (1.00)	1.00 (1.25)	1.25 (1.50)
中負荷 moderate shock	0.9 (1.00)	1.00 (1.25)	1.25 (1.50)	1.50 (1.75)
重負荷 heavy shock	1.00 (1.25)	1.25 (1.50)	1.50 (1.75)	1.75 (2.00)

扭力需求 ≥ 使用扭力 × 補正係數
 kw值需求 ≥ 使用kw值 × 補正係數

Torque requirement ≥ Applied torque × Service factor
 kw Requirement ≥ Applied kw × Service factor

- 註一：均一負荷及連續運轉期補正係數為1.0
 註二：每小時起動停止10回合以上採用 () 內數值
 note 1: the service factor for uniform load and continuous operation is 1.0
 note 2: use the number in () for start and stop over 10 cycles per hour.

表(二) 速比 1:1 table(2)
 Speed ratio 1:1

型號 model	R.P.M	3600	2750	1900	1750	1460	1150	870	580	400	300	200	150	100	50	10
		GM 02	KW kgf-m	2.926 0.77	2.282 0.791	1.617 0.812	1.498 0.819	1.26 0.826	1.008 0.833	0.77 0.861	0.5236 0.861	0.3861 0.875	0.2772 0.882	0.1862 0.889	0.1407 0.896	0.0952 0.91
GM 04	KW kgf-m	6.503 1.722	5.341 1.855	4.123 2.072	3.927 2.142	3.486 2.275	2.933 2.436	2.422 2.66	1.715 2.821	1.204 2.87	0.91 2.891	0.616 2.94	0.4655 2.961	0.3138 2.996	0.1589 3.031	0.0322 3.073
GM 06	KW kgf-m	17.85 4.732	15.26 5.292	11.62 5.838	10.78 5.88	9.45 6.174	8.05 6.678	6.822 7.28	4.977 8.19	3.633 8.68	2.758 8.75	1.869 8.89	1.414 8.96	1.014 9.1	0.952 9.24	0.4851 9.94
GM 08	KW kgf-m	— —	48.3 16.73	35.49 17.85	32.97 17.99	27.93 18.27	22.4 18.55	17.29 18.97	11.83 19.46	8.54 20.37	6.664 21.21	4.445 21.21	3.444 21.91	2.443 23.31	1.288 24.64	0.2702 25.76
GM 10	KW kgf-m	— —	— —	90.05 25.13	47.11 25.69	41.23 26.95	35.07 29.12	28.9 31.5	21.35 35.14	15.05 35.91	11.48 36.54	7.77 37.1	5.92 37.66	4 38.22	2.04 38.85	0.4193 40.04
GM 12	KW kgf-m	— —	— —	68.25 34.3	64.33 35.07	56.63 37.03	48.09 39.9	39.55 43.4	30.03 49.42	23.24 55.44	18.69 59.43	12.74 61.46	9.66 62.44	6.55 62.44	3.34 63.7	0.6881 65.66
GM 16	KW kgf-m	— —	— —	— —	— —	114.8 72.8	97.3 78.4	79.8 84.7	60.27 95.9	46.48 107.1	37.94 116.9	26.83 119.7	19.39 119.7	12.86 119.7	6.47 119.7	1.33 122.5

表(三) 速比 2:1 table(3)
 Speed ratio 2:1

型號 model	R.P.M	3600	2750	1900	1750	1460	1150	870	580	400	300	200	150	100	50	10
		GM 04	KW kgf-m	5.45 1.47	4.242 1.498	2.996 1.533	2.779 1.547	2.338 1.561	1.869 1.582	1.428 1.596	0.966 1.617	0.6776 1.645	0.5124 1.659	0.3451 1.68	0.2604 1.687	0.175 1.701
GM 06	KW kgf-m	12.95 3.5	10.08 3.57	7.14 3.661	6.65 3.696	5.807 3.738	4.48 3.794	3.437 3.843	2.338 3.927	1.638 3.990	1.239 4.018	0.833 4.053	0.6314 4.095	0.4249 4.137	0.2149 4.186	0.0434 4.228
GM 08	KW kgf-m	— —	18.62 6.594	12.81 6.594	11.83 6.594	9.87 6.594	7.91 6.899	6.09 6.818	4.144 6.958	2.905 7.07	2.205 7.14	1.491 7.21	1.127 7.28	0.756 7.35	0.385 7.49	0.0784 7.63
GM 10	KW kgf-m	— —	— —	21.35 10.92	19.74 10.99	16.73 11.13	13.37 11.27	10.29 11.48	7 11.76	4.928 11.97	3.738 12.11	2.527 12.32	1.911 12.39	1.288 12.53	0.6536 12.74	0.1337 13.02
GM 12	KW kgf-m	— —	— —	36.75 18.83	33.81 18.83	28.21 18.83	22.26 18.83	16.80 19.11	11.41 19.6	8.05 19.81	6.104 20.09	4.13 20.3	3.129 20.51	2.107 20.86	1.071 21.35	0.2191 21.35
GM 16	KW kgf-m	— —	— —	— —	61.39 34.16	52.01 34.65	41.72 35.28	32.20 36.05	22.05 37.03	15.54 37.8	11.76 38.15	7.98 38.85	6.055 39.27	4.088 39.83	2.079 40.46	0.4256 41.44

潤滑：

適當的潤滑油使用，可以發揮轉向機的效率，並提高其運轉的壽命。

- 初期使用二週或100-200小時，為初摩耗期，這之間可能有少許金屬磨粉，請務必清潔內部，並換新潤滑油。
- 長期使用時，每半年一年或者1000-2000小時，更換一次潤滑油。

潤滑油種類：

本產品潤滑油採用中國石油全效齒輪油90°—120°，低轉速、輕負荷條件，建議採用全效齒輪油90°，重負荷、高溫的條件，建議採用全效齒輪油120°。

※如有特殊使用條件，請事先與本公司洽商。

安裝：**Mounting:****Lubrication :**

Proper application of lubricating oil will raise the efficiency and prolong the life of the Miter Gears.

- The first two weeks or first 100 to 200 hours are break-in period. There might be some tiny metal powders during this time. Please clean interior and replace with new lubricating oil after break-in.
- For normal operation, replace lubricating oil every six months to one year or 1000 to 2000 hours whichever comes sooner.

The choices of lubricating oil :

The product use Universal Gear Oil 90° to 120° by China Petroleum Corp. Use Universal Gear Oil 90° for low speed and light load. Use Universal Gear Oil 120° for heavy load and high temperature.

Note: For special operation, please contact the manufacturer or our dealer.

	臥式 Horizontal	吊掛式 Over Hung	側壁式 Side Wall		
ILR ILR-O IR IR-O IL IL-O					
IUD IUD-O IU IU-O ID ID-O					
ULR ULR-O UR UR-O UL UL-O					
DLR DLR-O DR DR-O DL DL-O					