



CP/CW type 同步夾具

SYNCHRONOUS CLAMP

使用說明書

INSTRUCTION MANUAL
Original instructions



重要 Important Notes :

- 請仔細閱讀本說明書, 充分瞭解之後再使用本製品。
本說明書請妥善保管, 製品使用者變更時, 請將此說明書交給新的使用者。
- Before you use the product. Please read this instruction carefully.
Keep the instruction carefully. If the user of the product altered,
please hand the instruction to the new user.

為精進產品品質, 本公司擁有變更之權利, 如有變更恕不另行通知。
We reserve the right to modify without prior notice.



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EBIMK007G
v.2025.01



◎序言

為了確保你的安全，在使用你的夾頭之前，請務必詳閱本說明書內所記載之警告事項，並特別注意文中此

 圖形符號下之說明。

◎ INTRODUCTION

To ensure safe operation of your chuck, please read this instruction manual and pay particular attention to instructions marked with  including IMPORTANT instructions concerning chuck performance.



若未依照此符號底下的說明來操作機械將引起立即的危險，導致重大傷害或死亡。

→ Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.



若未依照此符號底下的說明來操作機械將引起潛在的危險，導致重大傷害或死亡。

→ Indicates an potentially hazardous situation which, if not avoided, could result in death or serious injury.



若未依照此符號底下的說明來操作機械將引起潛在的危險，導致中輕度的傷害。

→ Indicates an potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



依照此符號底下的說明事先了解製品的性能，可避免不正確的操作夾頭。

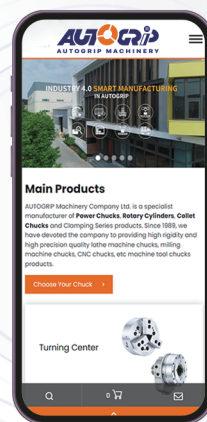
→ Indicates for chuck performance and avoiding errors of mistake.

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瀏覽官網，即刻掌握最新訊息!

**BROWSE THE WEBSITE AND
INSTANTLY GRASP INFORMATION!**

 **AUTOGRIP 佳賀精機**



*2D圖檔(PDF、DWG格式)、3D圖檔(STEP格式) 可以從官網下載。

*You can download the outline drawing (in pdf or dwg format) and 3D step at AUTOGRIP WEB.

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 佳賀精機 AUTOGRIP



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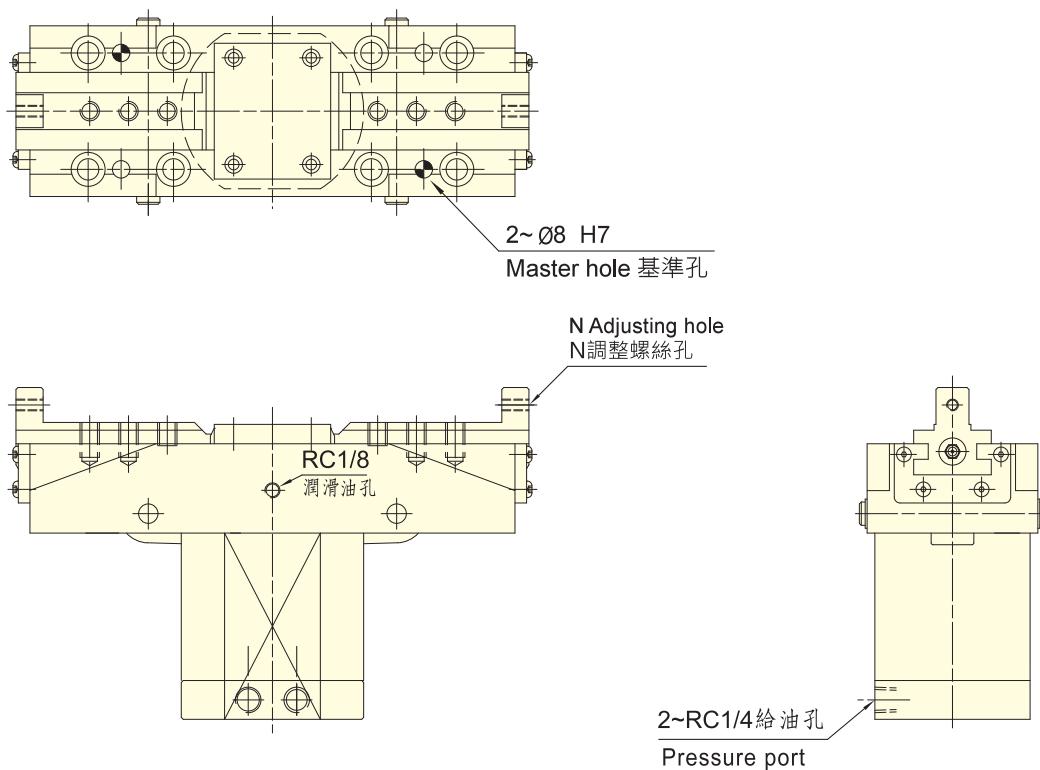


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1.1 同步夾具 (CP type) 規格

1.1 Specifications of Synchronous clamp (CP type)

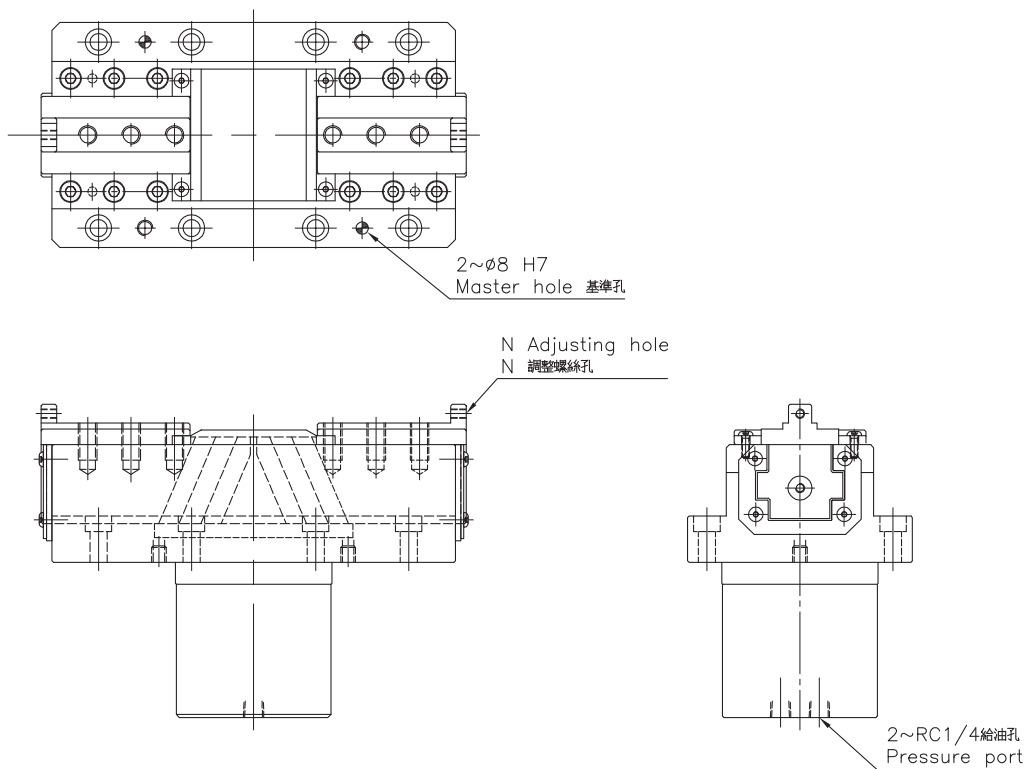


保留規格修改的權利
Subject to technical changes

型號	活塞面積 Eff. Piston area		爪行程 (直徑)	最大夾持能力	最大夾持力	最大使用壓力	重量
Model	伸側 Extend	拉側 Retract	Jaw stroke(Dia.)	Clamping capacity	Max. clamping force	Max. pressure	Weight
	cm ²	cm ²	mm	mm	kN (kgf)	MPa(kgf/cm ²)	kg
CP-20	28.27	25.13	20	150	14.4(1465)	3.5(35)	9.5
CP-30A	28.27	25.13	30	180	14.4(1465)	3.5(35)	11
CP-30	28.27	25.13	30	210	14.4(1465)	3.5(35)	12
CP-40	28.27	25.13	40	200	14.4(1465)	3.5(35)	12
CP-50	38.48	33.57	50	215	17.7(1812)	3.5(35)	18.5
CP-70	50.26	45.35	70	235	23.9(2434)	3.5(35)	30

1.2 斜楔式同步夾具 (CW type) 規格

1.2 Speciations of WEDGE-DRIVEN Synchronous clamp(CW type)

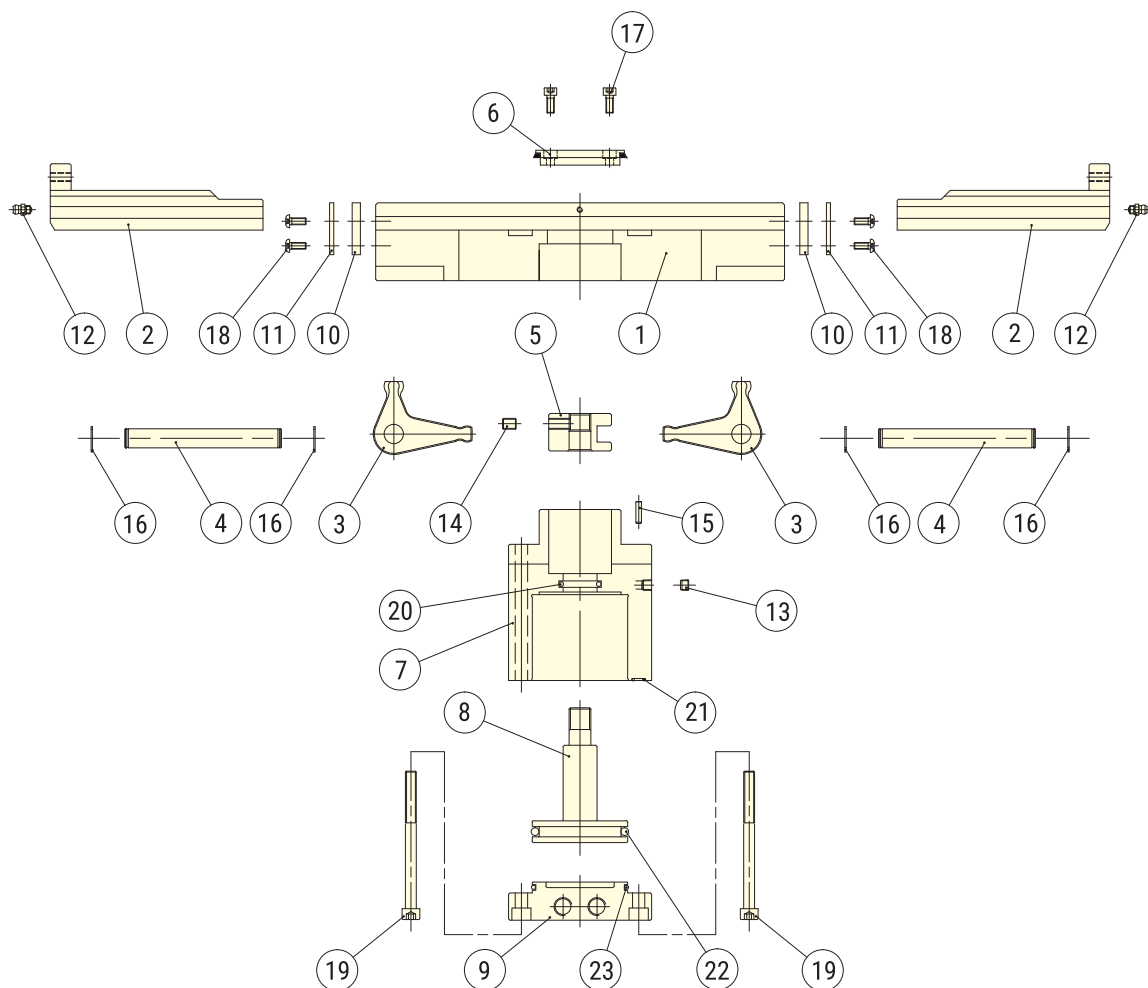


保留規格修改的權利
Subject to technical changes

型號	活塞面積 Eff. Piston area		爪行程 (直徑)	最大夾持能力	最大夾持力	最大使用壓力	重量
Model	押側 Extend	拉側 Retract	Jaw stroke(Dia.)	Clamping capacity	Max. clamping force	Max. pressure	Weight
	cm ²	cm ²	mm	mm	kN (kgf)	MPa(kgf/cm ²)	kg
CW-30	31.10	24.10	30	150	34.3(3500)	7.0(70)	32

2.1 斜楔式同步夾具 (CP type) 零件表

2. Parts list of WEDGE-DRIVEN Synchronous clamp (CW type)

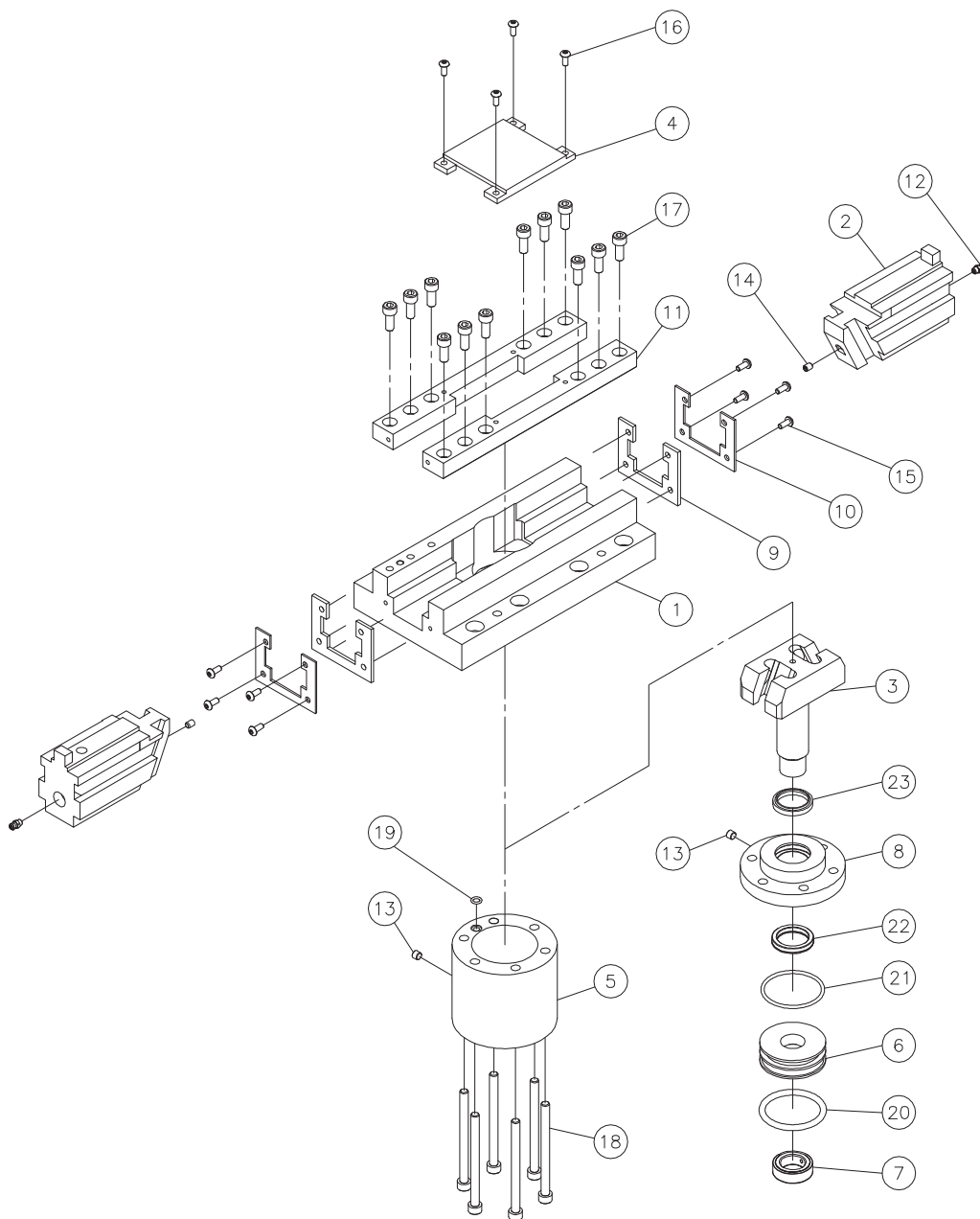


零件表 Parts list

No.	零件名稱	Name of parts				Q'ty
1	本體	Body				1
2	主爪	Master jaw				2
3	曲柄	Crank				2
4	曲柄銷	Crank Pin				2
5	中仁	Wedge plunger				1
6	防塵蓋	Dust Cover				1
7	缸體	Cylinder Body				1
8	活塞	Piston				1
9	缸蓋	Cylinder Cover				1
10	防塵刮板	Dust Wiper				2
11	刮板固定塊	Plate				2
12	黃油嘴	Grease nipple				2
13	斜管牙管塞	Plug Screw				1
14	六角孔固定螺絲	Hex. socket set screw				1
15	定位銷	Lock Pin				1
16	C 形扣環	Snap Ring				4
17	防塵蓋固定螺絲	Hex. socket cap bolt				4
18	六角孔半圓頭螺絲	Hex. socket button screw				8
19	圓頭六角孔螺栓	Hex. socket cap bolt				4
O-ring		CP-20 CP-30 CP-40	CP-30A	CP-50	CP-70	Q'ty
20	U 型環	USH-20(NOK)		USH-25(NOK)		1
21	O 型環	P7	P7	P7	P7	1
22	O 型環	P50A	P50A	P60	P60	1
23	O 型環	G55	G55	G65	G75	1

2.2 同步夾具 (CW type) 零件表

2. Parts list of Synchronous Clamp(CW type)



零件表 Parts list

No.	零件名稱	Name of parts	Q'ty
1	本體	Body	1
2	主爪	Master jaw	2
3	中仁	Wedge plunger	1
4	防塵蓋	Dust Cover	1
5	缸體	Cylinder Body	1
6	活塞	Piston	1
7	鎖固螺帽	Lock Screw	1
8	缸蓋	Cylinder Cover	1
9	防塵橡膠蓋	Dust Wiper	2
10	防塵橡膠蓋壓板	Plate	2
11	上壓板	Face Plate	2
12	黃油嘴	Grease nipple	2
13	斜管牙管塞	Plug Screw	2
14	六角孔固定螺絲	Hex. Socket set screw	2
15	六角孔半圓頭螺栓	Hex. socket button screw	8
16	六角孔半圓頭螺栓	Hex. socket button screw	4
17	六角孔圓頭螺栓	Hex. socket cap bolt	6
18	六角孔圓頭螺栓	Hex. socket cap bolt	6
19	O 型環	O-ring	1
20	O 型環	O-ring	1
21	O 型環	O-ring	1
22	U 型環	U-ring	1
23	油封	Oil Seal	1

3. 螺栓鎖緊的安裝順序：

3.1 安裝同步夾具於工作床台上

- 請依下列順序(附圖 1)鎖上螺絲 1-2-3-4-5-6-7-8, 鎖緊力量不平均可能會導致本體變形, 產生主爪卡死現象。
- 鎖緊螺絲時, 請依照標準力矩鎖緊, 如果鎖緊力矩不足或是太大, 將造成螺絲斷裂, 加工時產生危險, 建議 M10 螺絲鎖緊力矩為 72.6N.m (7.4kgf.m)。
- 請使用附屬之螺絲。

3. Bolt tightening steps

3.1 Mount the synchronous clamp on the machine.

- Tighten the installation bolt of procedure(Fig.1) : 1-2-3-4-5-6-7-8, the tightening strength unequally may cause the body to deformed, as well caused seize phenomenon for the master jaw.
- Tighten bolts at the specified tightening torque , if the tightening torque is insufficient or too strong, it may cause an accident , propose the tightening torque of M10 bolts is 72.6N.m (7.4kgf.m) 。
- Use only attached bolt.

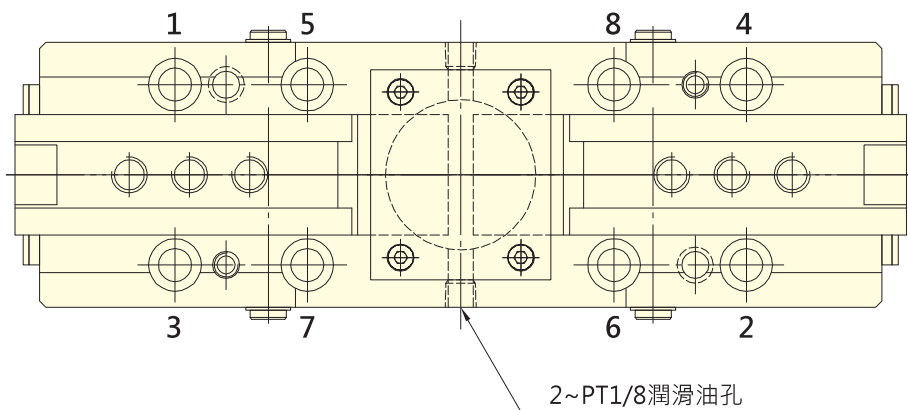


Fig.1

4. 使用上的注意事項

4.1 同步夾具作動方向及行程確認

- 將液壓油管接入油壓缸入油孔, 用手動操作同步夾具的開、合, 確認同步夾具作動方向是否符合。
- 檢查未夾持工作物時, 手動操作同步夾具的開、合時可達最大工作行程。



CAUTION
注意

4. Precautions

4.1 The move direction and stroke confirm of the synchronous clamp

- The hydraulic oil pipe to insert the cylinder enter oil hole, open, shut off for manual operation of the synchronous clamp to confirm whether the synchronous clamp does to accord with the moving direction.
- Check the worker when it's not clamp, open, shut for manual operation of the synchronous clamp to can reach max working stroke.

4.2 潤滑及保養

- 長時間定期地潤滑可保持同步夾具的壽命, 錯誤的潤滑將導致夾持力減弱、精度不良、磨損及卡死現象, 故必須正確的潤滑。

4.2 Lubrication and maintenance

- To maintain the synchronous clamp for a longer life of time, it is necessary to lubricate the synchronous clamp on a regular basis. Inadequate lubrication causes malfunction at low hydraulic pressure, reduces gripping force and affects gripping accuracy, and causes wear and seizure. Consequently, securely lubricate.

潤滑的處所	潤滑的處所	潤滑週期
使用潤滑油槍將潤滑油注入每一個主爪周圍的油嘴。	二硫化鉬潤滑油 BLACK LINE 鉬基	每日一次，但如果在使用大量的水性切削液加工中時，需要更多的潤滑，請依不同的情況來決定。
PT1/8 潤滑油孔	ISO VG68	使用自動注油機，每 2 小時潤滑一次（每次噴油 60 秒）。

Section to be lubricated	Grease useds	Lubrication cycle
Apply grease from the grease nipple at the periphery end of each master jaw with a grease gun.	Moly Kote EP Grease (DOW CORNING CO.,LTD) BLACK LINE molybdenum	Once a day. However, when the chuck is operated a large amount of water soluble cutting oil is used, more of lubricated is needed according to service conditions.
PT1/8 Lubricate gush oil hole	ISO VG68	Use automatic lubrication machine, lubricate every 2 hours. (60 seconds each time)

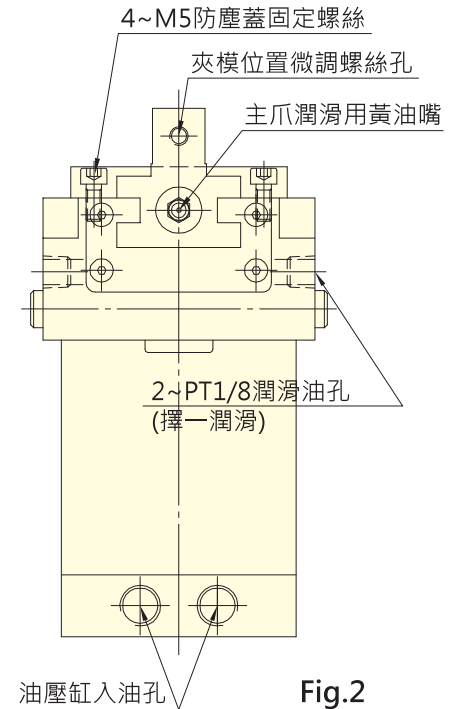


Fig.2

- 加工完後務必以風槍或類似的工具清潔同步夾具本體及滑道面。清潔時，請卸下防塵蓋固定螺絲，並取下防塵蓋，同時將主爪張至最開的位置，即可輕易清潔夾具內部積屑。（附圖 2，附圖 3）
- 避免因生鏽而降低夾持力，需使用防鏽之切削油。
- After machining, clean the chuck body and slideway with air gun, etc. While cleaning, remove the cover set screw, and disassemble cover, and max. position of the master jaw at the same time, it can clean inside bits of the clamp easily. (Fig2, Fig3)
- Use rust-proof oil to avoid reduce gripping force by rust.

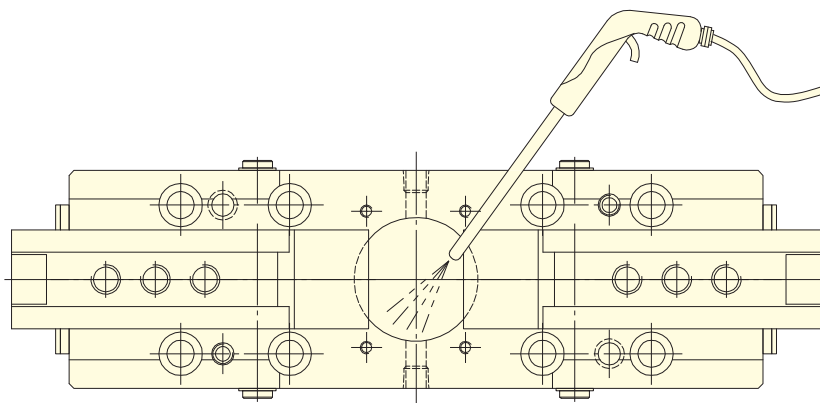


Fig.3

5. 故障排除

- 如同步夾具故障，請停下來檢查，並依下列情況來處置。

不正常情況	可 能 原 因	對 策
同步夾具不能動作	同步夾具零件損壞	分解同步夾具及更換損壞零件。
	滑動部位被卡住	分解同步夾具及取出被卡住的部位，以油石修整之或更換。
	油壓缸沒有動作	檢視油壓系統，如減壓閥、洩壓閥 ... 等。
主爪的全行程不足	內部積存了太多的雜屑	分解同步夾具後清理。
	液壓油雜屑過多	分解油壓缸後清理，並清理液壓油箱，更換新的液壓油。
工作物有滑動的情況	主爪的夾持行程不足	重新夾持工作物使得主爪的位置於行程的中點。
	主爪的夾持力不足	檢視是否達到所設定的油壓壓力。
	切削力量太大	重新計算一次切削力量，確認是否符合此同步夾具的規格。
	主爪軌道的潤滑油不足	重新潤滑主爪軌道，並在沒有工作物的情況下操作同步夾具數次。
精度不良	主爪與上爪之間有沙塵、切削、毛邊...等干涉	取下上爪並且完全清理。
	上爪固定螺絲沒有鎖緊	依適當力矩鎖緊。
	夾持力過大、使工作物變形	降低夾持力到適當程度，使得同步夾具可以夾緊工作物且不致於變形。
	上爪高度太高	降低上爪高至適當高度。

- 如欲無法自行處理或特殊狀況時，請通知您的經銷商或寄回本公司處理，切勿任意拆解更細部之零件。

5. Troubleshooting

- If the synchronous clamp malfunctions, stop the lathe and try the following countermeasures.

Problem	Possible Reasons	Countermeasures
Synchronous clamp will not work	Synchronous clamp part is damaged.	Disassemble synchronous clamp and replace part.
	The sliding part is stuck.	Disassemble and repair synchronous clamp damaged part with oil stone or make change.
	Hydraulic cylinder is not working.	Examine the hydraulic system, pressure reduction valve, over valve.... etc.
Insufficient master jaw total stroke	Too much swarf in chuck.	Disassemble and clean synchronous clamp.
	Too much miscellaneous bits of hydraulic oil.	Disassemble hydraulic cylinder and clean hydraulic tank, replace new hydraulic oil.
Workpiece slippage	Insufficient master jaw clamping stroke.	Make arrangement such that when workpiece is chucked the master jaw will be in the stroke center.
	Insufficient master jaw force.	Check that air pressure adequately set.
	Cutting force is too high.	Calculate cutting force and confirm whether the force matches synchronous clamp specifications.
	Insufficient lubrication on master jaws and each slidway.	Lubricate from the grease nipple and chucking operation of jaws several times without workpiece in the chuck.
Poor accuracy	Foreign mater is caught in serrations between master and top jaws, dust.... ect.	Remove top jaw and clean serrations thoroughly.
	Top jaw mounting bolts are inadequately tightened.	Tighten bolts to correct torque.
	Workpiece is deformed by too much gripping force.	Reduce gripping force to prevent deformation.
	Top jaw is too high.	Reduce height of the top jaw to the standard.

- Please contact your local distributor or agent. If no distributor or agent locally, then contact Autogrip Machinery Co., Ltd. On receipt of the product, we will inform you immediately of repair schedule. Please call us if you find any problems.

