

Trustworthy Tailift Equipment

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Tailift®

TCH系列
液壓伺服折彎機



CNC Press Brake

台勵福伺服油壓折彎機是雙缸(油壓缸)上動式，向下行程折床，允許鉸件折彎中維持在相同的作業高度，因此確保折彎及尺寸精準度。

Tailift's Servo Hydraulic Bending Machine is a down stroking press brake. It is controlled with double upward moving cylinders, allowing the work piece to remain at the same work height while processing, thus ensuring bending precision and dimensional accuracy.

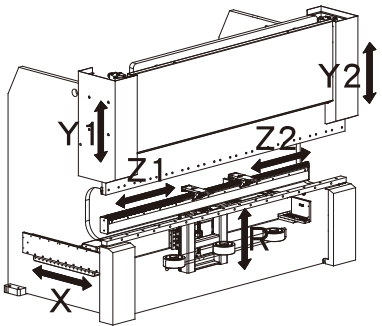


可控制軸數 Controllable Axes

CNC/ CybTouch 8ps/12ps TCH系列 (TCH-100) Y1, Y2, X, R, C

CNC/ ModEva Pac TCH系列 Y1, Y2, X, R, Z1, Z2, C

Y1及Y2軸可獨立控制，以便進行傾斜角補償，另有工作檯補償及撓度補償，可滿足用戶的不同需求。



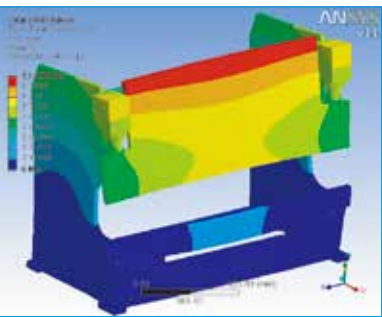
CNC/ CybTouch 8ps/12ps TCH Series (TCH-100) Y1, Y2, X, R, C

CNC/ ModEva Pac TCH Series Y1, Y2, X, R, Z1, Z2, C

Y1 and Y2 can be independently controlled for tilt angle compensation. Aside from these, worktable compensation and deflection compensation is also available to satisfy all different working requirements of users.

ANSYS - 結構有限元素分析 ANSYS - Finite Analysis

- 使用ANSYS專業軟體實施結構有限元素分析。
- 完成機身基座各部結構之靜性結構分析，剛性結構分析，暫態分析，模態分析等應力結構性資料。
- 機台架構之剛性，強度及精度…等完全依照國家標準生產製造，具備絕佳的穩定性。
- Application analysis of the finite elements to machine construction.
- Deformation factor as shown, a good indication of Tailift's fine structural design.



最理想的控制系統 Optimal Control System

- 歐洲CYBELEC控制器。
- 以2D圖形顯示工件折彎狀況。
- 介面操作簡單，輕易上手。
- 自動計算工件材料展開度。
- 大型防水操作面板。
- 透過內建I/O表進行選擇定義，無須PLC程式編輯，即可配置所有折彎功能。
- 支援英、德、法、中文等14個世界主流語言，TCH系列可任選3種安裝，並可隨意切換使用。
- 公制/英制系統切換。
- 全方位碰撞檢測功能，異常警示顯示。
- 提供使用權限功能，方便管理使用者權限。
- 軟體可以安裝至個人電腦，進行離線編輯產品、模擬加工、計算展開長度等，並透過傳輸介面把編輯的產品傳送到現場機台，可提高產品編輯速度，提升工作效率。

- European CYBELEC controller.
- 2D graphic display of the work-piece profile.
- Simple interface for easy operation.
- Automatic calculation of work-piece bend angle. (CT-12, MODEVA PAC)
- Water resistant control panel.
- Can use the built-in definitions of the I/O chart to set up all bending functions, does not need to require PLC programming.
- Multiple languages are supported, including German, English, French, Italian, Spanish, Portuguese, Swedish, Simplified Chinese, Korean and others, totaling more than 14 languages.
- Easy switch from Metric/ Imperial system.
- All round collusion detect function, alarm function for irregularities.
- User authentication. With management limits of authority.
- Programming is possible directly at the machine or externally via PC. Can improve job editing speed and work efficiency. (Option)

CNC/ CT8/12 TCH系列

- 傳輸介面: USB/RF link (Option)
- 採12英寸單色液晶螢幕
- 折彎速度0~40mm/sec，可自行設定
- 步序容量: 300個
- 模具資料庫容量: 上模100個，下模100個

CNC/ ModEva Pac TCH系列

- 傳輸介面:

3 USB 1.1 (2x external 2x internal)
1 parallel (printer).
1 RS232
1 RJ45 Ethernet
1 VGA
- 採15英寸TFT彩色晶螢幕
- 折彎速度0~40mm/sec，可自行設定
- 步序容量: 60個，可透過子程序擴展
- 模具資料庫容量: 400x14
- JPEG文件格式儲存圖像
- 自動編制及模擬工件折彎順序並以2D圖形顯示，折彎前後的變化，操作方式實時指引

CNC/ CT8/12 TCH Series

- Transmission Interface: USB/RF link (Option)
- 12-inch Color graphic TFT screen
- Bending speed can be set for between 0~40mm/sec
- 300 programs
- Tooling database capacity: upper tool 100, lower tool 100

CNC/ ModEva Pac TCH Series

- Transmission Interface:

3 USB 1.1 (2x external 2x internal)
1 parallel (printer).
1 RS232
1 RJ45 Ethernet
1 VGA
- 15-inch TFT color touch screen
- Bending speed can be set for between 0~40mm/sec
- Program memory: infinite number of programs, which can be saved in NC memory or directly in window
- Tooling database capacity: lower tool: 5600
upper tool: 5600
- Can store image as JPEG
- Automatic programming of bend job sequence and 2D graphic simulation of work-piece forming, real-time guidance on bend job execution.

機械科技 台灣驕傲

Mechanical technology Taiwan's pride



折彎機附件說明

控制系統：瑞士CYBELEC 數控系統

Press Brake Accessories

Control system: Swiss CYBELEC DNC controller

液壓系統

德國Bosch Rexroth公司高性能伺服閥液壓系統。

傳動系統

高精密的線性導軌與日本松下原裝高性能AC交流伺服電機及驅動器。

補償機構

採用油缸撓度補償，實現工作檯面補償，而保證折彎的精度。

Hydraulic System:

German BOSCH REXROTH high performance servo-valve hydraulic system.

Transmission System:

High precision linear guide-way and high performance panasonic AC servo motor and drive.

Compensation System:

Hydraulic cylinder deflection compensation automatic worktable compensation for wear and tear of the bed ensuring bend job precision for both simple and complex shapes.



HEIDENHAIN光學尺

採用HEIDENHAIN光學尺，將滑塊位置信號反饋給數控系統，再由數控系統控制同步閥的開口大小，自動調節油缸進油量的多少，配合Y軸折彎工件角度定位，控制滑塊(Y1, Y2)軸的同步運行，使工作檯始終保持平行的狀態，定位精度可高達 $\pm 0.01\text{mm}$ 。

HEIDENHAIN Grating

The top beam uses the HEIDENHAIN airtight grating in synchronization. Grating on either side will feedback to the controller the positions of the block beam to control the opening of the synchro-valve, thereby making automatic regulation of the oil flow to control the movements of the block axes Y1, Y2 in synchronization. Always keeping the worktable in a collateral plane, with positioning accuracy up to $\pm 0.01\text{mm}$.



夾持機構

- 標準配備為手動夾持機構使用壽命較長，另可以選購快速油壓夾持機構。
- 標準配備為AMADA規格的刀具，也可更換選用其它廠牌規格的刀具規格，如LVD, TRUMPF等。

Clamping Mechanism

- Standard with manual clamping mechanism for longer useful life. Fast hydraulic clamp mechanism is also available as option.
- Tools that can be equipped on the press brake are fairly flexible, compatible with AMADA, LVD and TRUMPF tooling specifications.



前托料支架

安裝於工作檯面。使用時，可依據工件長度將托料支架手動移動到適當位置固定。

Front Loader Bracket

Fitted in front of the worktable, position of the front loader bracket can be adjusted manually as required.

Force calculator

The chart allows you to read off the required bending force for a 1m length part, given

- 1. sheet thickness (t) and
- 2. the selected width of the die opening (V).

The table also show the minimum leg length (D) and the inside radius (R) associated with the selected die size (V, width of die opening).

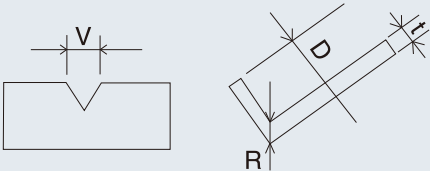
R	D	V	t	0.5	0.6	0.8	1.0	1.2	1.6	2.0	2.3	2.6	3.0	3.2	3.5	4.0	4.5	5.0	6.0	7.0	9.0	10	12	16	19
0.7	3	4	4	6	11																				
1.0	4	6	3	4	7	11																			
1.3	6.5	8		3	5	8	12																		
1.6	7	10			4	7	10	17																	
2.0	8.5	12				6	8	15	22																
2.3	10	14					7	13	19	25															
2.6	11	16						11	17	23	28														
3.0	13	18						10	15	19	25	34													
3.3	14	20							13	17	22	30	34												
4.0	17.5	25								15	18	24	27	33	43										
5.0	22	32									14	19	22	26	34	44									
6.0	25	36										17	19	23	30	39	47								
6.5	35	50											17	20	27	34	42	60							
8.0	35	50											16	21	27	33	48	66							
10	45	63													21	26	38	52	84						
13	55	80														21	30	41	67	85					
16	70	100															24	33	54	67	96				
20	85	120																27	45	55	80	142			
26	113	160																		42	60	107	150		
33	140	200																				48	86	120	

t: sheet thickness (mm) (tensile strength 45~50kg/mm2)

R: inside radius associated with the selected die size

V: selected width of the die opening

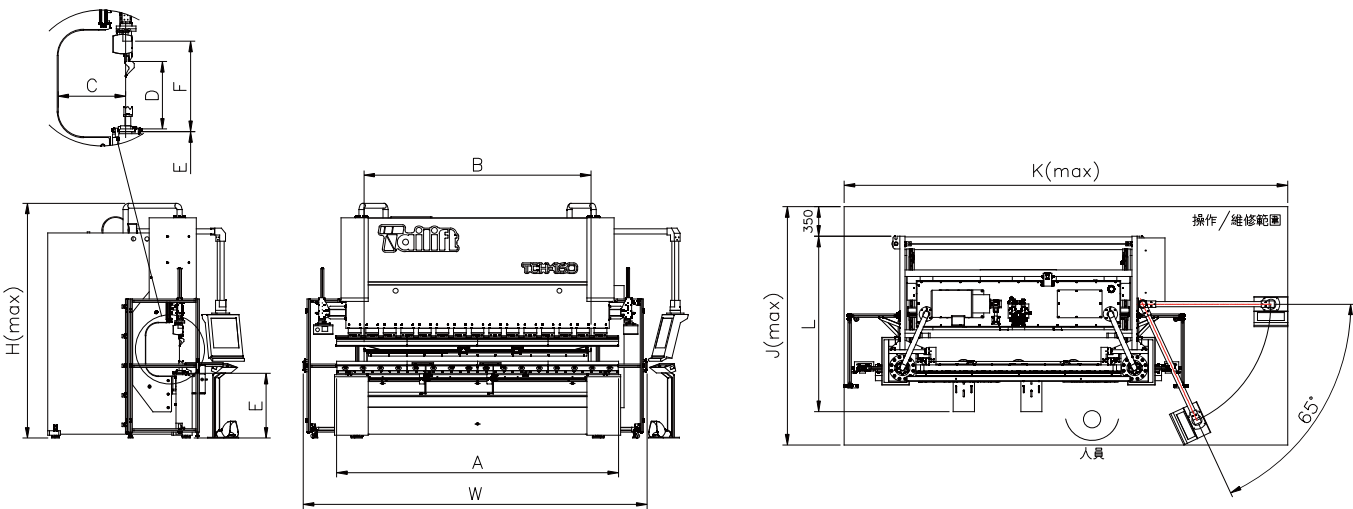
D: minimum leg length



Note: Refer below for the V-widths of tools in general

Sheet thickness	t(mm)	0.5~1.0	1.0~8.0	8.0~12	12以上
Width of die opening for lower tool (V Type)	xt	6	8	10	12

Values are only representative and varies for different bending condition.



		TCH-60	TCH-80	TCH-100	TCH-130	TCH-160	TCH-210
加壓噸數 Tonnage	kN	600	800	1000	1300	1600	2100
折曲行程 Bending Stroke	mm	150	150	150	215	215	215
上部/下部檯面最大距離(F) Max. Bed-Press Beam Distance (F)	mm	485	485	485	550	550	550
有效開啓高度(D) Effective Open Height (D)	mm	320	320	320	450	450	450
下部檯面長度(A) Bending Length (A)	mm	2000	2500	3120	3200	3200	3200
兩側主骨架距離(B) Distance Between Side Frames (B)	mm	1580	2080	2700	2700	2700	2700
喉口深度(C) Throat (C)	mm	400	400	400	400	400	400
下部檯面折床寬度 Width of Bed/Table Width	mm	50	50	60	100	120	150
下部檯面操作高度(E) Operating Height (E)	mm	765	765	765	765	765	765
X軸最大行程(DNC880S) Max. X-axis travel (DNC880S)	mm	785	785	785	850	850	850
X軸行程(DNC600S) X-axis travel (DNC600S)	mm	485	485	485	550	550	550
X軸速度 X-axis speed	mm/s	0-500	0-500	0-500	0-500	0-500	0-500
R軸行程 R-axis travel	mm	290	290	290	290	290	290
Z軸行程 Z-axis travel	mm	1250	1750	2350	2350	2350	2350
Y軸下降速度 Y-axis lowering speed	mm/s	90	90	125	110	85	65
Y軸上升速度 Y-axis raising speed	mm	75	75	75	105	95	100
驅動馬達出力 Drive Motor	kW	11.2	11.2	11.2	14.9	14.9	18.6
機台重量 Machine Weight	kgf	6340	6800	8300	9950	9950	9950
油箱容量 Oil tank capacity	Liter	250	250	310	310	310	310
佔地面積(長Lx寬Tx高H) Space Occupied (L x T x H)	mm	2200x1600x2460	2720x1600x2460	3400x1600x2460	4450x1600x2460	4450x1600x2460	4450x1600x2460

* 以上規格如有變更，恕不另行通知。

* Specifications are subject to changes without prior notice.