



### **UNIVERSAL ELECTRIC FOLDING MACHINES**

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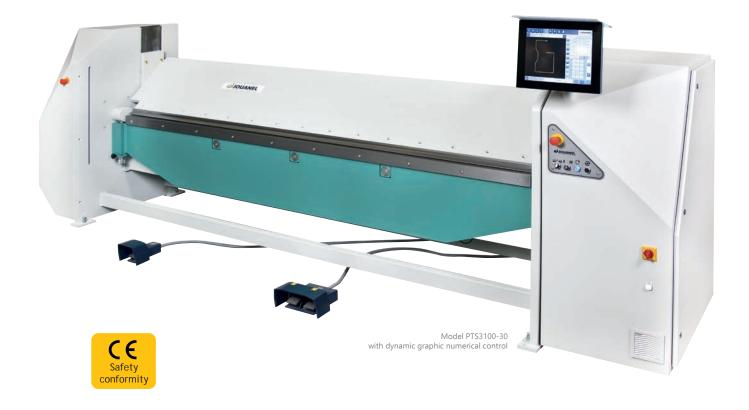
FRENCH MACHINE-TOOLS

MANUFACTURER

*Since* 1948

# Universal electric FOLDING MACHINES







### **PRODUCT ADVANTAGE**

- High productivity for all thin sheet bending works, for batch or individual production
- Two touchscreen numerical controls of your choice, standard or dynamic graphic model
- Profile creation by drawing directly on touchscreen or by importing files (dynamic graphic CNC)
- High folding speed and fast-moving back gauge
- Safety light curtains in the front for a significant increase in speed
- Remote maintenance or remote diagnosis and updates according to CNC model chosen

### MACHINE SELECTION GUIDE



The appropriate combination of working length, bending capacity and numerical control choice shows you the motorized folding machine you need.











PTL without CNC

PTL with standard CNC

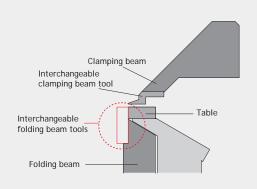
PTL with graphic CNC

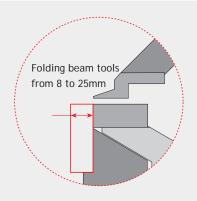
PTS with standard CNC

PTS with graphic CNC

FIE WILLIOUT CINC FIE WILLI STALL		iaid Cive	TE WILL GLAPITIC CIVE					F13 With Standard CNC					
		P	ΓL ran	ge				PTS r	ange				
MACHINE REFERENCES		PTL 2100-18	PTL 2600-15	PTL 3100-12	PTS 2100-20	PTS 2100-40	PTS 2600-18	PTS 2600-35	PTS 3100-15	PTS 3100-30	PTS 4100-10	PTS 4100-20	
Folding length (m	m)	2 100	2 600	3 100	2 100	2 100	2 600	2 600	3 100	3 100	4 100	4 100	
Material	Clamping / Folding beam												
With standard clamping beam tool						Capacitie	s * (thickne	ess in mm)					
Steel	Folding beam 25mm	1.8	1.5	1.2	2.0	4.0	1.8	3.5	1.5	3.0	1.0	2.0	
400N/m <sup>2</sup>	Folding beam 15mm	1.2	1.0	0.8	1.5	2.0	1.25	1.8	1.0	1.5	0.8	1.2	
Aluminum	Folding beam 25mm	2.5	2.0	1.75	3.0	5.0	2.5	4.5	2.0	4.0	1.5	2.5	
1050-H44	Folding beam 15mm	1.75	1.5	1.2	2.0	3.0	1.8	2.75	1.5	2.5	1.0	1.8	
Galva	Folding beam 25mm	1.5	1.2	1.0	1.6	3.2	1.4	2.8	1.2	2.4	0.8	1.6	
Gaiva	Folding beam 15mm	1.0	0.8	0.65	1.2	1.6	1.0	1.5	0.8	1.2	0.65	1.0	
lnox 304L	Folding beam 25mm	1.2	1.0	0.8	1.3	2.7	1.2	2.3	1.0	2.0	0.7	1.3	
IIIOX 304L	Folding beam 15mm	0.8	0.65	0.5	1.0	1.3	0.8	1.2	0.7	1.0	0.55	0.8	
Machine delivered with 1 standard clamping beam tool and 2 folding beam tools		Operates	with or wit	hout CNC	Operate	es exclusivel	y with stand	dard or grap	ohic CNC (s	ee optional	equipment	Page 8)	
Numerical control		Standard SIEMPRO CNC or dynamic graphic CNC											

<sup>\* 90°</sup> bending capacities / Minimum fold width = 15 times the thickness





### **CHOICE**

### **2 NUMERICAL CONTROLS**

# U Z

### **STANDARD SIEMPRO CNC**

An economical and easy-to-use version



### **DYNAMIC GRAPHIC CNC**

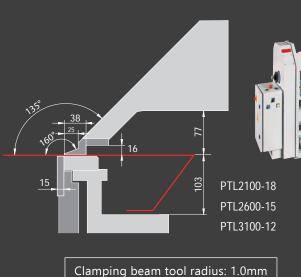
Very intuitive numerical control



# Universal electric FOLDING MACHINES



# PTL - PTS Suitable for thin or thick sheets



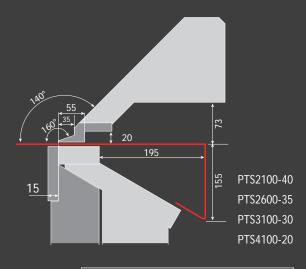
Model PTL3100-12 without CNC

Model PTL3100-12 without CNC

35°
38
PTS2100-20
PTS2600-18
PTS3100-15
PTS4100-10

Model PTS3100-15 with dynamic graphic CNC

Clamping beam tool radius: 1.0mm



Model PTS3100-30 with dynamic graphic CNC

Clamping beam tool radius: 1.5mm



### **Universal electric folding machines - PTL range**

Technical characteristics		PTL2100-18 PTL2600-15 PTL310						
Useful folding length (mm)			2100	2600	3100			
2001/ 2		25 mm*	1.8	1.5	1.2			
400N/m <sup>2</sup> steel (mm)		15 mm*	1.2	1.0	0.8			
Capacities (mm)  1050-H44 aluminum  Galva	Ε	25 mm*	2.5	2.0	1.75			
υ ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο	Folding beam	15 mm*	1.75	1.5	1.2			
Galva	olding	25 mm*	1.5	1.2	1.0			
e Galva	윤	15 mm*	1.0	0.8	0.65			
Inox 304L		25 mm*	1.2	1.0	0.8			
IIIOX 304L		15 mm*	0.8	0.65	0.5			
Table height (mm)			835					
Clamping beam tool angle			20°					
Clamp opening (mm)				130				
Folding speed (°/s)				60				
Clamping speed without safety light curtains (mm/	s)			10				
Clamping speed with safety light curtains (mm/s)			40					
Power supply (V) **			400 V three-ph + neutral + ground					
Total power (kW)			1,5					
Dimensions without electric back gauge (LxWxH) (mr	٦)		2 970 x 620 x 1 190	3 470 x 620 x 1 190	3 970 x 620 x 1 190			
Gross weight (kg) without electric back gauge			1400 1600 1800					
* 90° bending capacities / Minimum fold width = 15 times the thickness • ** Electrical voltage to be specified upon order								

### **Universal electric folding machines - PTS range**

Technical characteristics			PTS2100-20	PTS2100-40	PTS2600-18	PTS2600-35	PTS3100-15	PTS3100-30	PTS4100-10	PTS4100-20			
Long	ueur utile de pliage (m	m)		2100	2100	2600	2600	3100	3100	4100	4100		
	10011/ 2 /		25 mm*	2.0	4.0	1.8	3.5	1.5	3.0	1.0	2.0		
<u> </u>	400N/m <sup>2</sup> steel (mm)		15 mm*	1.5	2.0	1.25	1.8	1.0	1.5	0.8	1.2		
Capacities (mm)	1050-H44 aluminum	Ε	25 mm*	3.0	5.0	2.5	4.5	2.0	4.0	1.5	2.5		
es (	1050-H44 aluminum	y beam	15 mm*	2.0	3.0	1.8	2.75	1.5	2.5	1.0	1.8		
aciti	Galva	Folding	25 mm*	1.6	3.2	1.4	2.8	1.2	2.4	0.8	1.6		
ape	Gaiva	꼰	15 mm*	1.2	1.6	1.0	1.5	0.8	1.2	0.65	1.0		
0	lnox 304L		25 mm*	1.3	2.7	1.2	2.3	1.0	2.0	0.7	1.3		
	INOX 304L		15 mm*	1.0	1.3	0.8	1.2	0.7	1.0	0.55	0.8		
Table	height (mm)				830								
Clam	ping beam tool angle			20°									
Clam	p opening (mm)			130	240	130	240	130	240	130	240		
Foldi	ng speed (°/s)			60									
	ping speed without sa ins (mm/s)	fety	light				1	0					
	ping speed with safety ins (mm/s)	ligh	nt				4	0					
Powe	er supply (V) **			400 V three-ph + neutral + ground									
Total	power (kW)			2.6	9	2.6	9	2.6	9	2.6	9		
	ensions without electric (xH) (mm)	bac	ck gauge	3 260 x 865 x 1 800	3 600 x 1 005 x 1 900	3 760 x 865 x 1 800	4 100 x 1 005 x 1 900	4 260 x 865 x 1 800	4 600 x 1 005 x 1 900	5 260 x 865 x 1 800	5 600 x 1 005 x 1 900		
Gros: gaug	s weight (kg) without e e	lect	ric back	1900	3300	2200	3500	2500	3800	2900	4600		

# NUMERICAL CONTROLS

### STANDARD SIEMPRO CNC



### STANDARD "SIEMPRO" CNC

Simplified numerical control

- 15" colour touchscreen, adjustable
- Possibility to work either in manual mode or in automatic mode after quick creation of the programs
- Management of the metal sheet position before folding
- Management of rotating, flipping and turning over parts
- Unlimited creation of programs
- Fast duplication of the programs
- Safe access secured by password depending on the operator's tasks (programming, use of program) or without password
- Counting up and down of produced parts
- Folding angle correction in manual mode according to metal elasticity (type, thickness)
- Maintenance management by numerical control (automatic reminder of periodical interventions, intervention history)
- Remote maintenance and updates via Ethernet connection (RJ45)
- Multilingual CNC





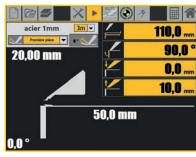
Main menu



Execution mode



Program mode



Manual mode

### **Optional equipment SIEMPRO**

• Electric back gauges PTSL-BAE (options to be specified upon order)

Electric back gauges BAE	PTL PTL PTL 2100-18 2600-15 3100-13						
Back gauges ranges	10 to 750mm/ 10 to 1000mm/ 10 to 1500mm						
Back gauge speed	300mm/s forward 500mm/s reverse						
Number of back gauge fingers	6	8					
Min. distance between 2 fingers (mm)	100mm						

- CNC control of the clamping beam lock and precise height adjustment (Z-axis) Ref. PTSL-SIEMPRO-Z (to be specified upon order)
- Automatic angle controller, maximum thickness 1mm, Ref. PTSL-CORANG-SIEMPRO (to be specified upon order)

# Examples | Control | Cont

### **DYNAMIC GRAPHIC CNC**





### DYNAMIC GRAPHIC CNC

Very intuitive numerical control to easily draw profiles on the touchscreen

- 17" touchscreen with mobile protection cover
- Different access codes for programmer/maintenance/execution
- Automatic management of the clamping beam position (opening and closing)
- · Folding beam speed control
- · Back gauge speed control
- SmartPath software: automatic analysis of profile feasibility, several sequences suggested
- Calculation of collision prevention with the clamping beam
- · Library of profile parts with a quick search
- Programming choice, by table or profile drawing
- · Creation, duplication and modification of programs
- Stamping without moving the folding beam, choice of three intervals between successive bends
- Automatic management of flipping and turning over parts
- Counting up and down of the produced parts
- Possibility to save all data via USB port
- Remote diagnosis and update via Ethernet connection (RJ45)
- Web application « EDGE »
- Multilingual CNC

### VIDEOS www.jouanel.com

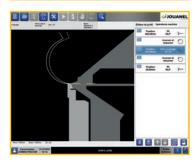
Automatic analysis of profile feasibility, several sequences suggested





Automatic management of rotating, flipping and turning parts over

Create curved shapes with stamping mode





# Web application EDGE With only a tablet or connected PC!

With the EDGE web application, you can, from a PC or a tablet, draw your parts to be folded, check their feasibility and export them directly to the graphic CNC of your folding machine

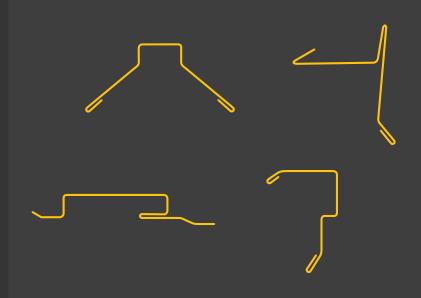
Up to 20 users at the same time

- No more mistakes when relaying parts to be folded
- Transmits needs to the folding workshop in real time
- Immediate analysis of the profile feasibility outside the workshop
- Digital profile library with sorting options (building sites, customers...)

### **Optional equipment GRAPH**

 Bending angle springback mode (angle correction), maximum thickness 1mm,
 Ref. PTSL-CORANG-GRAF (to be specified upon order)





### **EQUIPMENT COMPARISON TABLE**

	PTL range			PTS range							
MACHINE REFERENCES	PTL 2100-18	PTL 2600-15	PTL 3100-12	PTS 2100-20	PTS 2100-40	PTS 2600-18	PTS 2600-35	PTS 3100-15	PTS 3100-30	PTS 4100-10	PTS 4100-20
Folding length (mm)	2 100	2 600	3 100	2 100	2 100	2 600	2 600	3 100	3 100	4 100	4 100
Numerical control	Operates	with or wit	thout CNC	Oper	ates exclusi	ively with a	standard or	r graphic CN	NC (see opt	ional equip	ment)
EQUIPMENT INCLUDED											
2 interchangeable 15 and 25mm folding beam tools	•	•	•	•	•	•	•	•	•	•	•
1 Interchangeable clamping beam tool at 20°	•	•	•	•	•	•	•	•	•	•	•
Folding beam crowning device	•	•	•	•	•	•	•	•	•	•	•
Adjustment of the folding radius	•	•	•	•	•	•	•	•	•	•	•
Automatic bending cycle (productivity +25%)	•	•	•	•	•	•	•	•	•	•	•
Electromechanical angle gauge	•	•	•								
Control by 2 operators			•					•	•	•	•
CNC control of the clamping beam position (Z-axis)				•	•	•	•	•	•	•	•
OPTIONAL EQUIPMENT	To be spe	cified upo	n order								
Standard SIEMPRO numerical control (without back gauge) - See Page 6	•	•	•	•	•	•	•	•	•	•	•
DYNAMIC GRAPHIC numerical control (without back gauge) Included: CNC control of the clamping beam position and height adjustment, EDGE application See Page 7	•	•	•	•	•	•	•	•	•	•	•
Electric back gauge 750mm See P. 10 (2)	•	•	•	•	•	•	•	•	•	•	•
Electric back gauge 1 000mm See Page 10 (2)	•	•	•	•	•	•	•	•	•	•	•
Electric back gauge 1 500mm * (composed of 2 lines of gauge fingers ) See Page 10 (2)	•	•	•	•	•	•	•	•	•	•	•
Manual sliding back gauge 750mm - See Page 10	•	•	•								
CNC control of the clamping beam position (Z-axis) (1)	•	•	•								
Automatic angle correction (2)	•	•	•	•	•	•	•	•	•	•	•
Safety light curtains (2) CE conformity : 2006/42/CE	•	•	•	•	•	•	•	•	•	•	•
Control console on swivel arm (2)	•	•	•	•	•	•	•	•	•	•	•
Folding beam tools 8, 10 or 12mm	•	•	•	•	•	•	•	•	•	•	•
Conical folding (3)  Manual pneumatic adjustment *			•	•	•	•	•	•	•	•	•
Control pedal on ground rail	•	•	•	•	•	•	•	•	•	•	•
Single-phase power supply 230 V instead of 400 V three-phase	•	•	•	•		•		•		•	
Set of fully retractable gauge fingers* Manual control button (3)	•	•	•	•	•	•	•	•	•	•	•
Segmented clamping beam tool See Page 11					•		•		•		•
Retractable roller shear				•		•		•		•	
Folding beam with clearance PTSL-TDI				•	•	•	•	•	•	•	•

<sup>\*</sup>These options require air supply: please contact us

<sup>(1)</sup> This option requires standard numerical control SIEMPRO (equipment included in the PTS range of folding machines)

<sup>(2)</sup> This option requires numerical control

<sup>(3)</sup> This option requires electrical back gauge



### **Equipment included**



Folding beam crowning device (depending on the model)



Adjustment of the folding radius



Electromechanical angle gauge



Mode selection: 1 or 2 operators

### **Optional equipment**



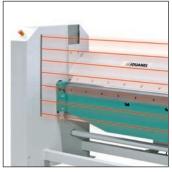
Ref. PTSL-CNC-SIEMPRO



Ref. PTSL-CNC-GRAF



Electric back gauge, maximum range 750, 1000 or 1500mm - Ref. PTSL-BAE



Safety light curtains - Ref. PTSL-SPEED-Z



Control console on swivel arm Ref. PTSL-CNC-POT



Manual sliding back gauge, maximum range 750mm - Ref. PTL-BAM



Pneumatic conical folding, manual adjustment

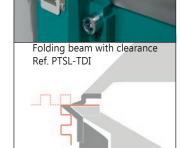


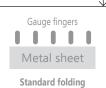
Control pedal on ground rail Ref. PTSL-PEDRAIL



Retractable roller shear, Ref. PTSL-CCM





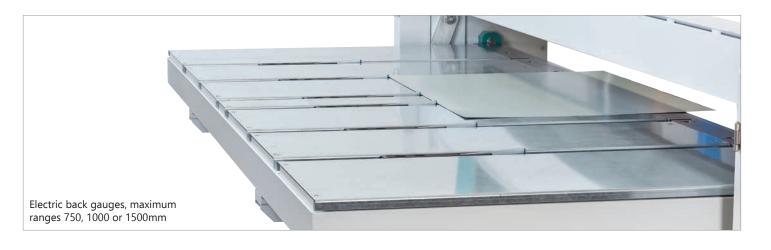






### **BACK GAUGE**

	PTL range						PTS i	ange			
MACHINE REFERENCES	PTL 2100-18	PTL 2600-15	PTL 3100-12	PTS 2100-20	PTS 2100-40	PTS 2600-18	PTS 2600-35	PTS 3100-15	PTS 3100-30	PTS 4100-10	PTS 4100-20
Folding length (mm)	2 100	2 600	3 100	2 100	2 100	2 600	2 600	3 100	3 100	4 100	4 100
Manual sliding back gauge 750 mm (option)							W				
Manual back gauge range (mm)		12 to 750				TO		NAT			
Number of arms of the manual belt back gauge	3	4	4							25	
Number of pre-settable positions / arms of the manual sliding back gauge		6				<b>6</b>	Service of the last			P	-
Minimum distance between 2 fingers (mm)		100					100		Manual slid	ding back	nauge
Electric back gauge (option)									maximum		
Electric back gauge range 750mm (mm)						10 to 750					
Electric back gauge range 1000mm (mm)						10 to 1000					
Electric back gauge range 1500mm (mm)						10 to 1500					
Electric back gauge speed (mm/s)					300 for	ward / 500	reverse				
Number of back gauge fingers (except for conical folding)	6	8	8	6	6	8	8	8	8	10	10
Number of back gauge fingers (with optional conical folding)			8	6	6	8	8	8	8	10	10
Minimum distance between 2 back gauge fingers						100					
Dimensions with electric back gauge 750 mm and numerical control option (LxWxH) (mm)	2 970 x 1 673 x 1 550	3 470 x 1 673 x 1 550	3 970 x 1 673 x 1 550	3 260 x 1 780 x 1 800	3600 x 2 100 x 1 900	3 760 x 1 780 x 1 800	4 100 x 2 100 x 1 900	4 260 x 1 780 x 1 800	4 600 x 2 100 x 1 900	5 260 x 1 780 x 1 800	5 600 x 2 100 x 1 900
Gross weight (kg) with electric back gauge 750mm	1700	1900	2100	2200	3600	2500	3800	2800	4100	3300	5000





### SEGMENTED CLAMPING BEAM TOOL (only on PTS according to models)

Box height 120mm max.

		PTS range							
MACHINE RI	EFERENCES	PTS PTS PTS PTS 2100-40 2600-35 3100-30 4100-2							
Folding lengtl	h (mm)	2 100	2 600	3 100 4 100					
Material	Clamping beam / Foldin	ng beam							
Segmented c (option)	lamping beam tool	Capacities * (thickness in mm)							
Steel	Folding beam 25 mm	2.5	2.0	1.8	1.2				
400N/m <sup>2</sup>	Folding beam 15 mm	1.8	1.5	1.2	1.0				
Aluminium	Folding beam 25 mm	4.0	3.5	3.0	2.0				
1050-H44	Folding beam 15 mm	3.0	2.5	2.0	1.5				
Galva	Folding beam 25 mm	2.0	1.6	1.4	1.0				
Galva	Folding beam 15 mm	1.5	1.2	1.0	0.8				
Inox 304L	Folding beam 25 mm	1.5	1.3	1.0	0.8				
1110X 304L	Folding beam 15 mm	1.2	1.0	0.8	0.6				
Segmented cla	amping beam tool angle		2:	5°					
	m opening with amping beam tool (mm)		12	25					
Useful segme	nt height (mm)		12	20					
Segment widths (mm)		(2 x 250) + (4 x 200) + (3 x 100) + (2 x 75) + 70 + (3 x 50) + (2 x 35) + (2 x 30)	(3 x 250) + (3 x 200) + (6 x 100) + (4 x 75) + 70 + (3 x 50) + (2 x 35) + (2 x 30)	(5 x 250) + (3 x 200) + (6 x 100) + (4 x 75) + 70 + (3 x 50) + (2 x 35) + (2 x 30)	(9 x 250) + (3 x 200) + (6 x 100) + (4 x 75) + 70 + (3 x 50) + (2 x 35) + (2 x 30)				
Gross weight w	vith segmented m tool (kg)	3 700	4 100	4 500	5 220				

Clamping beam tool radius: 1.5mm

Left and right 30-mm corner segments

 $<sup>^{*}</sup>$  90° bending capacities / Minimum fold width = 15 times the thickness





PTS3100-30 with segmented clamping beam tool



## FRENCH MACHINE-TOOLS MANUFACTURER

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