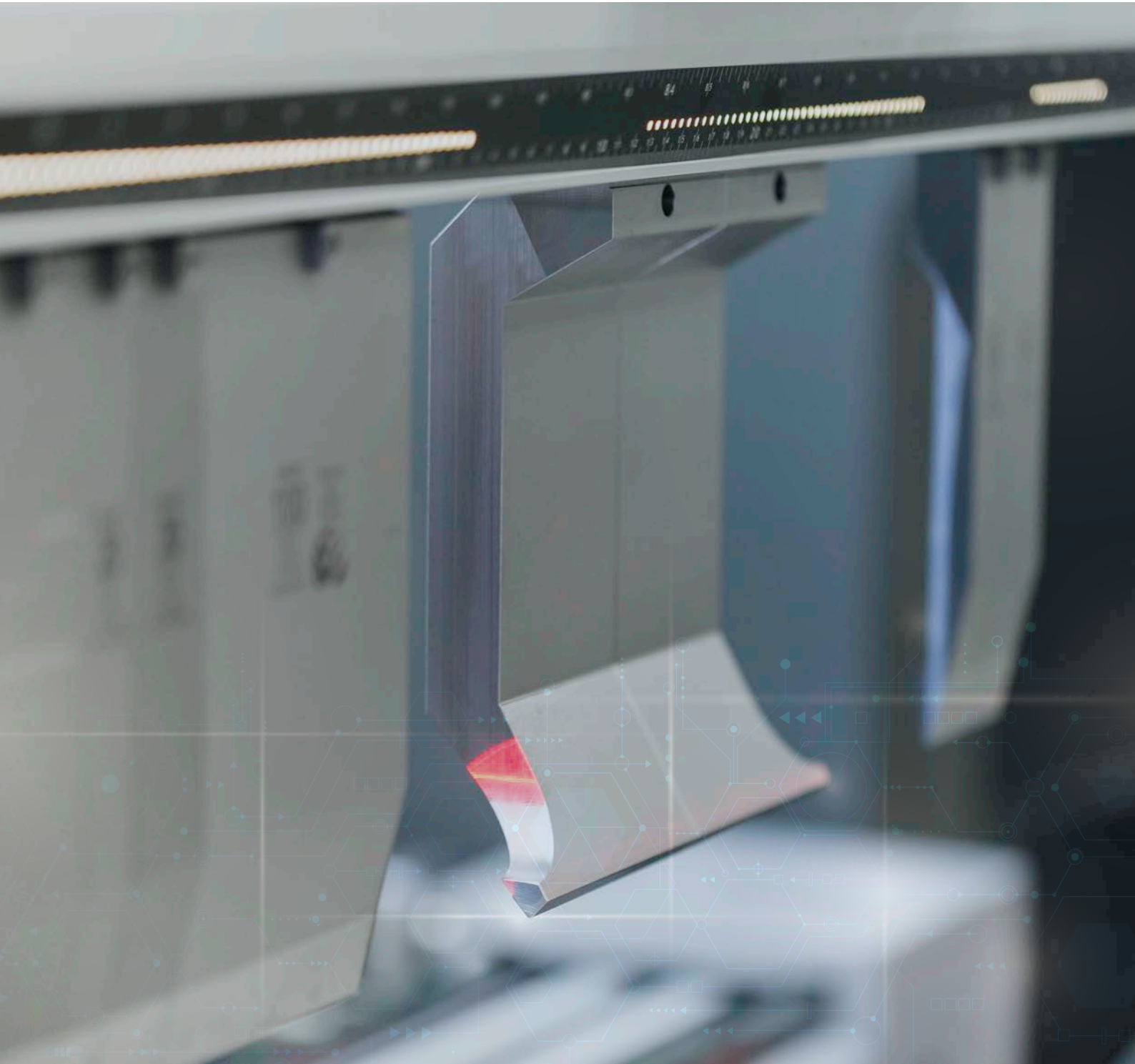


PRESS BRAKES



Press Brakes
SynchroMaster
EuroMaster-S
PressMaster

HACO's Affordable Bending Solutions to the Highest Standards

Always the right choice for your application

- SynchroMaster Series **4**
- EuroMaster-S Series **12**
- PressMaster Series **18**

Equipment

- FastBEND-2D/3D MT Premium **24**
- New Standard Tooling System **26**
- Smart Tool Locator **26**
- Sheet Following Systems **27**
- Lasersafe Optical Safety Guards **28**
- Angle Measuring System Alfa-F **30**
- Angle Measuring System IRIS Plus **31**
- Robot Bending **32**
- Tandem / Tridem Press Brakes **34**
- HDSY , Heavy Duty Press Brakes **35**

HACO's press brake series are the result of a decades long tradition in designing and manufacturing affordable **state-of-the art bending machines** for a wide variety of customers and applications.

HACO continues its policy of single source responsibility. Our in house developed **CNC controls** and **software solutions** have been recognized as being among the most user-friendly in the market. The new generation **Multi Touch** controls sets a new standard for an intuitive and user-friendly operator interface, introducing innovations such as **Smart Draft, Step Previewer** and **Combined Icons**.

HACO's attention for **design** and **manufacturing quality** has resulted in a worldwide reputation of long lasting production machines offering **excellent reliability** and **precision**.

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Our Press Brakes Series



SynchroMaster (SRM)

Entry Level Machine

Entry level press brake with basic execution for operation with European Standard Tooling. Possibility to extend with straightforward options. Attractive price/quality ratio. Standard with user friendly 2D graphical touch control.



EuroMaster-S (EMS)

Standard Multifunctional Allround Machine

Multi level press brake with market oriented execution. Extensive choice of options, both basic and sophisticated. Innovative 2D Multi Touch graphical control. Excellent price-performance ratio. Integration of advanced safety equipment.



PressMaster (PM)

Top Level High-Spec Machine

Top level press brake with high-end specifications and execution. Increased Daylight Opening and Beam Stroke for increased bending freedom. Increased beam and backgauge speeds for high productivity. Innovative 3D Multi Touch graphical control. Possibility for extension with sophisticated options. Features accurate bending characteristics. Integration of advanced safety equipment.

SynchroMaster Series

Your entry-level machine

BEAM CONTROL

Beam parallelism and depth stop setting by means of bed referenced linear encoders for accurate beam position measurement, synchro module and proportional valve hydraulics

EASYBEND-2D T

Touch Screen control



EASYBEND-2D MT

Multi Touch Screen control (optional)



ROL1 CLAMP3 (optional)



ROL200 Manual or Pneumatic (optional)

SynchroMaster Series

SRM



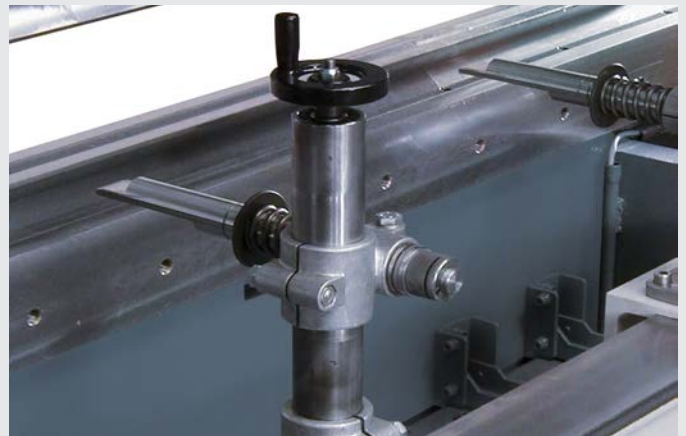
*Model SRM 275 13 10
Flush Floor frame
design for all models*

CROWNING TABLE (OPTIONAL)

Compensates for ram and table deflection, ensuring consistent bending angles over the entire bending length.
Manual operation and CNC controlled versions (V-axis)

STANDARD BACKGAUGE X

Rigid backgauge for accurate sheet positioning



STANDARD EUROPEAN

Quick Manual Upper clamping
Manual bottom clamping



SynchroMaster Series

EasyBEND-2D T Control

EASYBEND-2D T CONTROL

- **18.5"** colour graphic LCD display with **Touch Screen Technology**
- WIN10 IoT operating system
- Multiple drawing methods
- Graphic simulation of work pieces with **Multitasking Real Time Solution Finding**
- **Automatic Bending Sequence Calculation** with collision control
- Automatic program generation
- Expandable up to **7 axes**:
 - standard Y1 + Y2
 - standard X-axis
 - optional R-axis
 - optional X-R-Z/Z' and X-R-Z1-Z2 axes
 - optional crowning (= V-axis)
- Material library up to **30 different materials**
- Tool library with graphical visualisation for
- **30 upper** and **30 lower tools**
- **Multi-language support**
- **USB Support** (stick included) + Network board
- **Remote diagnostics**
- **Programmable Beam Speed** and **Speed Change-Over Point**
- **Programmable Top Death Centre (TDC)**
- Programmable Backgauge Positioning with retraction



SynchroMaster Series

Standard Execution



EUROPEAN STANDARD (ES)

top tooling with Quick Manual Clamping arrangement

The European Standard Tooling System has proven its flexibility, affordability and precision during the last decades in an infinite number of sheet metal working shops. A wide choice of a vast number of top and bottom tools allows for an unpredictable number of applications in various materials and thicknesses.



X BACKGAUGE, expandable to X-R, X-R-Z/Z' and X-R-Z1-Z2

The SynchroMaster is standard equipped with a rigid and accurate X backgauge featuring average travelling speeds. Optional X-R (height programming), X-R-Z/Z' (symmetric finger programming) and X-R-Z1-Z2 (asymmetric finger programming) are available for increasing your range of applications.

Picture: X-R backgauge

- **EasyBEND-2D control**
- **X Backgauge for accurate sheet positioning**
 - Stroke X = 32", maximum speed = 945"/min
 - Stroke R = 10", maximum speed = 236"/min (Optional)
- **European Standard (ES) top clamping with Quick Manual Clamping Arrangement**
- **Intermediate clamping with height 6" (all models ≤ 350 Ton), height 5" HD version (all models = 440 Ton)**

Your Competitive Edge

A. Excellent Value for Money

B. User Friendly EasyBEND-2D T graphical control

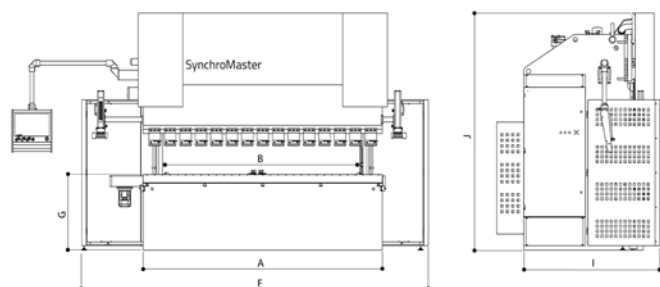
C. Proven Profitability for Various Workload Conditions

SynchroMaster Series

Technical Specifications

	Bending length	Capacity	Distance between housings	Gap	Daylight opening	Stroke	Table Height	Fast Approach Speed	Max. Bending Speed	Fast Return Speed	Motor Power	Length	Width	Height	Weight
	A	T	B	C	D	E	G	"/min	"/min	"/min	HP	F	I	J	Lbs
MODEL	"	T	"	"	"	"	"	"/min	"/min	"/min	HP	"	"	"	Lbs
75 6 5	83	75	63	15,75	20,47	10,60	33	354	23,62	236	15	115	68	108	12346
75 8 6	102	75	83	15,75	20,47	10,60	33	354	23,62	236	15	151	68	108	14991
75 10 8	122	75	102	15,75	20,47	10,60	33	354	23,62	236	15	171	68	108	16976
110 8 6	102	110	83	15,75	20,47	10,60	36	472	23,62	295	15	136	69	115	15873
110 10 8	122	110	102	15,75	20,47	10,60	36	472	23,62	295	15	171	69	115	18519
110 12 10	144	110	124	15,75	20,47	10,60	36	472	23,62	295	15	193	69	115	22928
110 13 10	161	110	124	15,75	20,47	10,60	36	472	23,62	295	15	210	69	115	23369
110 14 12	169	110	148	15,75	20,47	10,60	36	472	23,62	295	15	218	69	115	26015
165 8 6	102	165	83	15,75	20,47	10,60	36	472	23,62	295	20	151	69	115	17196
165 10 8	122	165	102	15,75	20,47	10,60	36	472	23,62	295	20	174	69	115	20283
165 12 10	144	165	124	15,75	20,47	10,60	38	472	23,62	295	20	193	69	115	24251
165 13 10	161	165	124	15,75	20,47	10,60	38	472	23,62	295	20	211	69	115	24692
165 14 12	169	165	148	15,75	20,47	10,60	38	472	23,62	295	20	218	69	115	29101
220 8 6	102	220	83	15,75	20,47	10,60	36	378	18,90	283	25	151	81	115	21164
220 10 8	122	220	102	15,75	20,47	10,60	36	378	18,90	283	25	171	81	115	23589
220 12 10	144	220	124	15,75	20,47	10,60	36	378	18,90	283	25	193	81	115	26896
220 13 10	161	220	124	15,75	20,47	10,60	36	378	18,90	283	25	213	81	115	28881
220 14 12	169	220	148	15,75	20,47	10,60	36	378	18,90	283	25	218	81	115	36156
275 10 8	122	275	102	15,75	20,47	10,60	35	307	18,90	213	25	171	89	115	28660
275 12 10	144	275	124	15,75	20,47	10,60	35	307	18,90	213	25	193	89	115	30644
275 13 10	161	275	124	15,75	20,47	10,60	35	307	18,90	213	25	213	89	115	33731
275 14 12	169	275	148	15,75	20,47	10,60	35	307	18,90	213	25	218	89	115	36817
275 16 13	197	275	159	15,75	20,47	10,60	37	307	18,90	213	25	246	89	115	52470
275 20 16	236	275	199	15,75	20,47	10,60	43	307	18,90	213	25	285	89	115	67241
350 10 8	122	350	102	15,75	24,40	16,53	35	236	18,90	224	30	171	87	137	37479
350 12 10	144	350	124	15,75	24,40	16,53	35	236	18,90	224	30	193	87	137	42990
350 13 10	161	350	124	15,75	24,40	16,53	35	236	18,90	224	30	210	87	137	46297
350 14 12	169	350	148	15,75	24,40	16,53	35	236	18,90	224	30	218	87	137	50706
350 16 13	197	350	159	15,75	24,40	16,53	37	236	18,90	224	30	246	87	137	60627
350 20 16	236	350	199	15,75	24,40	16,53	43	236	18,90	224	30	285	87	137	71650
440 10 8	122	440	102	15,75	24,40	16,53	41	213	16,54	142	50	161	101	156	57320
440 12 10	144	440	124	15,75	24,40	16,53	41	213	16,54	142	50	183	101	156	63934
440 13 10	161	440	124	15,75	24,40	16,53	41	213	16,54	142	50	200	101	156	68343
440 14 12	169	440	124	15,75	24,40	16,53	41	213	16,54	142	50	208	101	156	70548

Specifications subject to modifications without prior notice

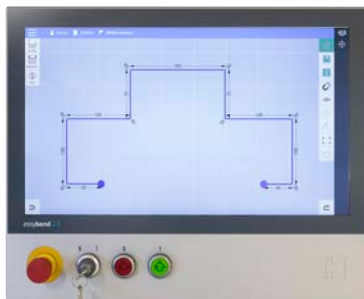


SynchroMaster

EasyBEND-2D MT (Optional)

EasyBEND-2D MT control

- 18.5" multi colour Multi Touch screen
- Standard 2D visualisation
- Automatic or manual bending
- Execution of generated 2D-programs
- USB interface
- Network + offline functions
- Multi-language support
- Remote diagnostics



Point to Point drawing method & Real Time solution calculation during building up the workpiece design



SMART DRAFT: innovative drawing method for generating 2D workpieces



STEP PREVIEWER: bar with possibility of horizontally scrolling of the bending steps



COMBINED ICONS: multiple functionalities by means of one single icon



Intuitive Interface with combined numerical-graphical user interface



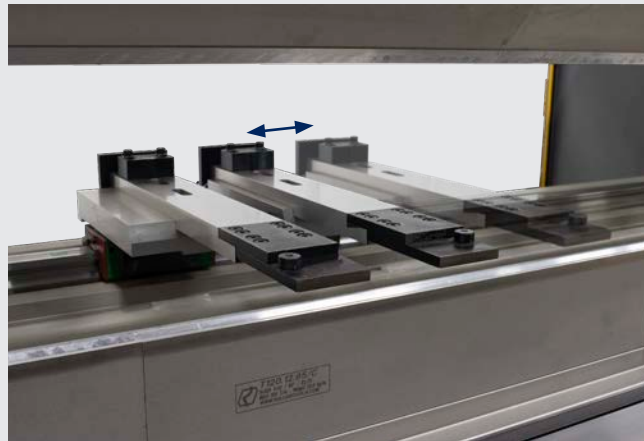
Intuitive Interface with program overview and possibility of operator messages

SynchroMaster

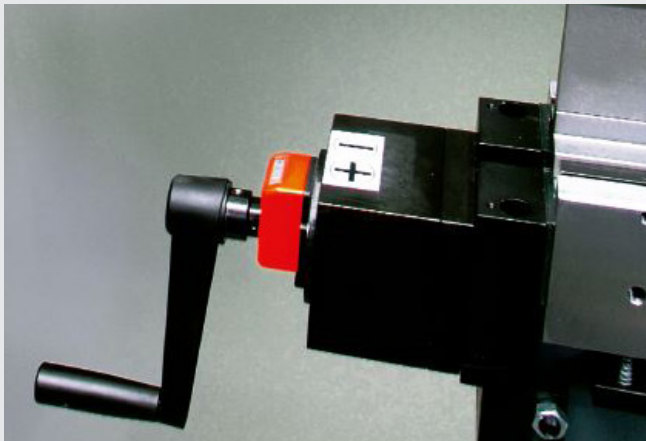
Optional equipment



X-R BACKGAUGE

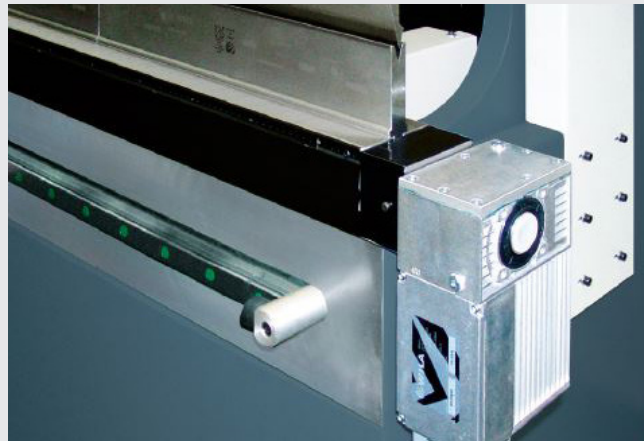


**X-R-Z/Z' AND X-R-Z1-Z2
BACKGAUGES**



MANUAL CROWNING

Manual Anti-Deflection table for European Standard Bottom tooling



CNC CROWNING

Motorised CNC controlled anti-deflection table for European Standard and single V-dies

SynchroMaster

Optional equipment

FRONT STOP TYPE I

2 units, length 29,5", with T-slot and 1 tilting stop.

Movable along the working length of the machine, manually adjustable in height.

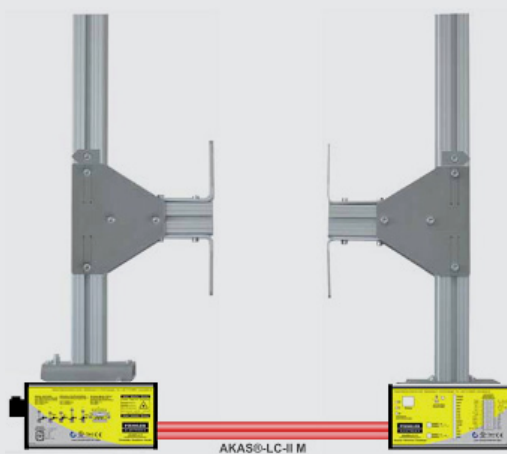


OPTICAL SAFETY GUARDS DSP AND FIESSLER AKAS® LC-II M

The CE regulation allows only Fast Approach Speed when applying an optical safety guard moving with the closing beam.

This guard is mounted to the beam and can be adjusted manually in height.

When detecting an obstacle within the protected area around the tip of the upper tooling, the system interrupts the downward movement instantaneously.



EuroMaster-S Series

Your allround bending machine

BEAM CONTROL

Beam parallelism and depth stop setting by means of bed referenced linear encoders for accurate beam position measurement, synchro module and proportional valve hydraulics

INTUITIVE FASTBEND-2D MT PREMIUM CONTROL

- Multi Touch Technology on 21.5" screen
- Intuitive Operator Interface
- Smart Draft
- Multi-Tasking
- Step Previewer
- Combined Icons
- Auto Tooling
- Pendant arm with optional height adjustment



EUROPEAN STANDARD TOP TOOLING WITH QUICK MANUAL CLAMPING

New Standard Top and Bottom Tooling (optional)



*Model 275 13 10
Flush Floor frame
design for all models*



**ROL1 CLAMP3
(optional)**

EuroMaster-S Series

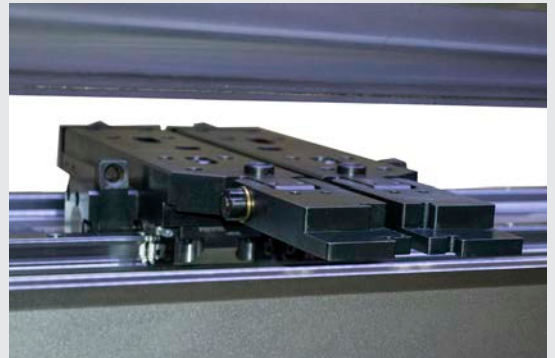


CROWNING TABLE

Compensates for ram and table deflection, ensuring consistent bending angles over the entire bending length. Standard CNC controlled (V-axis).

2-AXES X-R BACKGAUGE

Rigid and High Speed backgauge for accurate sheet positioning



2 SHEET SUPPORTS WITH GUIDING



ROL200 Manual or Pneumatic (optional)

EuroMaster-S Series

Standard Execution



INTUITIVE FASTBEND-2D MT PREMIUM CONTROL

The application of Multi Touch technology reduces the number of keyboard- and button actions to an absolute minimum. The innovative Smart Draft, Design/Bending Multitasking, Step Previewer and Combined Icons features allow the operator a straightforward, intuitive control of the entire production cycle.



EUROPEAN STANDARD (ES) TOP TOOLING with

Quick Manual Clamping arrangement and CNC controlled Anti Deflection Table with clamping for ES dies

The European Standard Tooling System has proven its flexibility, affordability and precision during the last decades in an infinite number of sheet metal working shops. A wide choice of a vast number of top and bottom tools allows for an unpredictable number of applications in various materials and thicknesses.



HIGH SPEED X-R-BACKGAUGE

A rigid and accurate backgauge is an absolute condition for precision. High speed is an absolute condition for production output and short cycle times. The EuroMaster's X-R backgauge (and optional X-R-Z/Z' and X-R-Z1-Z2 versions) offers both. Manual finger width adjustment from the front.

EuroMaster-S Series

Standard Execution

- **FastBEND-2D MT Premium control**

Smart Draft + MultiTasking + Step Previewer + Combined Icons + Auto Tooling

21.5" Multi Touch screen

- **High Speed X-R Backgauge for accurate sheet positioning**

Stroke X = 32", speed = 2362"/min

Stroke R = 10", speed = 590"/min

- **European Standard (ES) top clamping with Quick Manual Clamping Arrangement**

- **Intermediate clamping with height 6" (all models \leq 350 Ton),
height 5" HD version (all models = 440 Ton)**

- **CNC controlled Anti Deflection Table (Crowning) for ES dies, including nute for clamping single-V dies**

- **2 Sheet Supports 29,5" with guiding, manually adjustable in height**

- **LED illumination of the bending area**

Your Competitive Edge

A. Outstanding Price-Performance Ratio

B. State-Of-The-Art User Friendly 2D Multi Touch Control

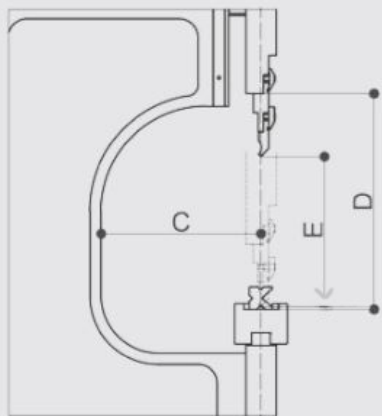
C. Highest Part Precision

EuroMaster-S Series

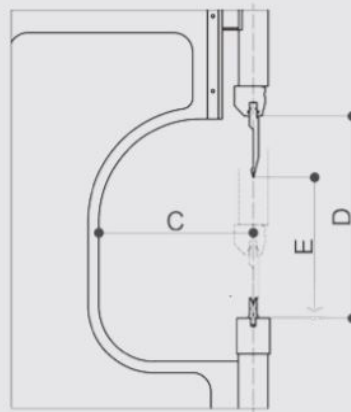
Technical Specifications

Daylight Opening - Stroke - Gap

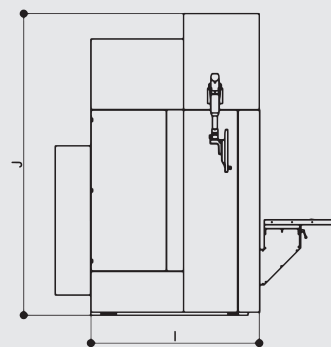
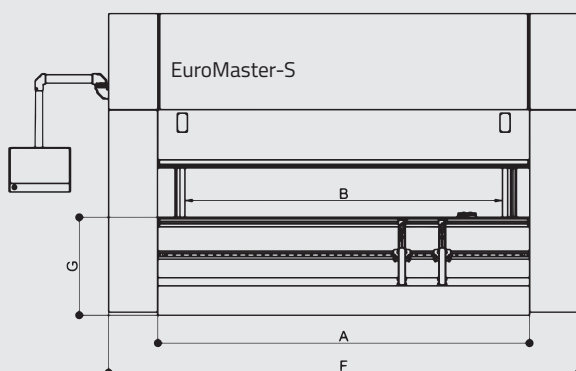
	Basic European Standard (ES)			Option ES High Specs			Option New Standard (NS)			Option NS High Specs		
	Daylight Opening	STROKE	GAP	Daylight Opening	STROKE	GAP	Daylight Opening	STROKE	GAP	Daylight Opening	STROKE	GAP
	D	E	C	D	E	C	D	E	C	D	E	C
	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches
75 T	20.47	10.6	15.75	24.41	15.56	15.75	17.32	10.6	15.75	21.25	14.57	15.75
110 T	20.47	10.6	15.75	24.41	15.56	15.75	17.32	10.6	15.75	21.25	14.57	15.75
165 T	20.47	10.6	15.75	24.41	15.56	15.75	17.32	10.6	15.75	21.25	14.57	15.75
220 T	20.47	10.6	15.75	24.41	15.56	15.75	17.32	10.6	15.75	21.25	14.57	15.75
275 T	20.47	10.6	15.75	24.41	15.56	15.75	17.32	10.6	15.75	21.25	14.57	15.75
350 T	24.41	16.54	15.75	-	-	-	21.25	16.54	15.75	-	-	-
440 T	24.41	16.54	15.75	-	-	-	21.25	16.54	15.75	-	-	-



**EUROPEAN
STANDARD**



**NEW
STANDARD**



EuroMaster-S Series

Technical Specifications

(Valid for Basic European Standard)

	Bending length	Capacity	Distance between housings	Table Height	Fast Approach Speed	Max. Bending Speed	Fast Return Speed	Motor Power	Length	Width	Height	Weight
	A	T	B	G	"/min	"/min	"/min	HP	F	I	J	Lbs
MODEL	"	T	"	"	"/min	"/min	"/min	HP	"	"	"	Lbs
75 6 5°	83	75	63	36	354	23,62	236	15	122	62	115	13007
75 8 6°	102	75	83	36	354	23,62	236	15	141	62	115	16535
75 10 8°	122	75	102	36	354	23,62	236	15	161	62	115	17637
110 8 6°	102	110	83	36	472	23,62	295	15	141	62	115	16535
110 10 8°	122	110	102	36	472	23,62	295	15	161	62	115	20503
110 12 10°	144	110	124	36	472	23,62	295	15	177	62	115	23149
110 13 10°	161	110	124	36	472	23,62	295	15	200	62	115	23810
110 14 12°	169	110	148	36	472	23,62	295	15	208	62	115	26676
165 8 6°	102	165	83	36	472	23,62	295	20	141	67	115	18519
165 10 8°	122	165	102	36	472	23,62	295	20	161	67	115	22267
165 12 10°	144	165	124	38	472	23,62	295	20	182	67	115	25574
165 13 10°	161	165	124	38	472	23,62	295	20	201	67	115	26235
165 14 12°	169	165	148	38	472	23,62	295	20	208	67	115	29762
220 8 6°	102	220	83	36	378	18,90	283	25	141	72	115	22928
220 10 8°	122	220	102	36	378	18,90	283	25	161	72	115	24692
220 12 10°	144	220	124	36	378	18,90	283	25	177	72	115	28219
220 13 10°	161	220	124	36	378	18,90	283	25	200	72	115	30203
220 14 12°	169	220	148	36	378	18,90	283	25	208	72	115	37038
275 10 8°	122	275	102	35	307	18,90	213	25	161	80	115	29101
275 12 10°	144	275	124	35	307	18,90	213	25	182	80	115	32628
275 13 10°	161	275	124	35	307	18,90	213	25	200	80	115	35715
275 14 12°	169	275	148	35	307	18,90	213	25	208	80	115	37699
275 16 13*	197	275	159	37	307	18,90	213	25	246	89	137	53572
275 20 16*	236	275	199	43	307	18,90	213	25	285	89	137	68343
350 10 8*	122	350	102	35	236	18,90	224	30	171	87	137	38581
350 12 10*	144	350	124	35	236	18,90	224	30	193	87	137	44092
350 13 10*	161	350	124	35	236	18,90	224	30	210	87	137	47399
350 14 12*	169	350	148	35	236	18,90	224	30	218	87	137	51809
350 16 13*	197	350	159	37	236	18,90	224	30	246	87	137	61729
350 20 16*	236	350	199	43	236	18,90	224	30	285	87	137	72753
440 10 8*	122	440	102	41	213	16,54	142	50	161	101	156	58422
440 12 10*	144	440	124	41	213	16,54	142	50	183	101	156	65036
440 13 10*	161	440	124	41	213	16,54	142	50	200	101	156	69446
440 14 12*	169	440	124	41	213	16,54	142	50	208	101	156	71650

Specifications subject to modifications without prior notice

° Euromaster-S models with built-in side doors

* Euromaster-S models with free-standing side doors, SynchroMaster style (see drawing on page 8)

PressMaster Series

Your High Spec, High Performance bending machine

**INCREASED DAYLIGHT OPENING (21,25"),
STROKE (14,65")**

BEAM CONTROL

Beam parallelism and depth stop setting by means of bed referenced linear encoders for accurate beam position measurement, synchro module and proportional valve hydraulics

INTUITIVE FASTBEND-3D MT PREMIUM CONTROL

- Multi Touch Technology on 24" screen
- Intuitive Operator Interface
- Smart Draft
- Multi-Tasking
- Step Previewer
- Combined Icons
- Auto Tooling
- PartManager-3D

NEW STANDARD HYDRAULIC TOP TOOL CLAMPING

LAZERSAFE OPTICAL SAFETY GUARD (optional)



PressMaster Series

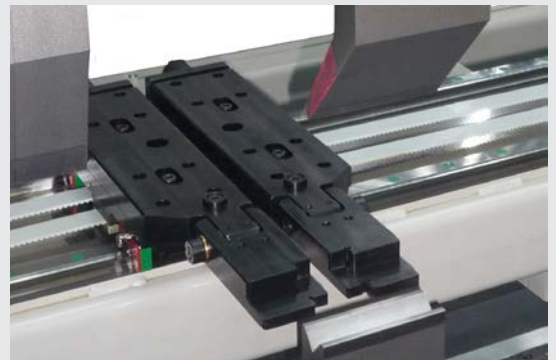


CNC CROWNING TABLE WITH HYDRAULIC CLAMPING FOR NEW STANDARD BOTTOM TOOLING

Compensates for ram and table deflection, ensuring consistent bending angles over the entire bending length. CNC controlled (V-axis)

4-AXES X-R-Z1-Z2 BACKGAUGE

Rigid and High Speed backgauge for accurate sheet positioning



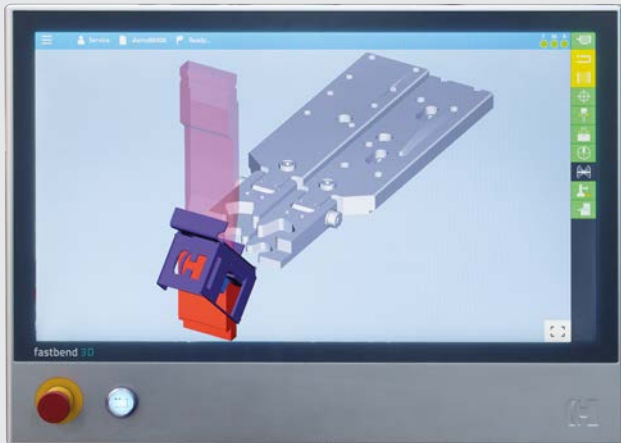
2 SHEET SUPPORTS WITH GUIDING



*Model PRM 165 12 10 with SyncView option
Flush Floor frame
design for all models*

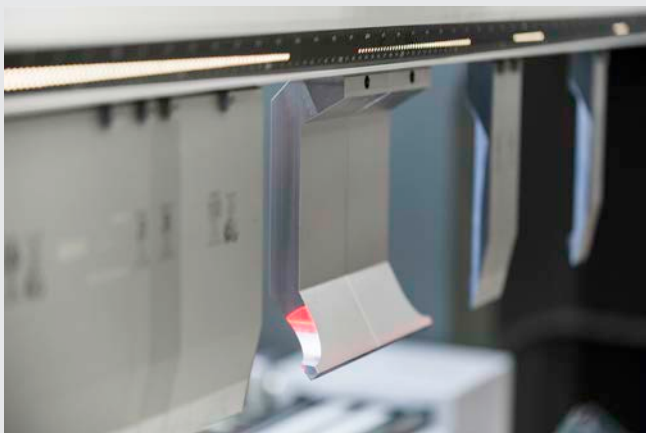
PressMaster Series

Standard Execution



INTUITIVE FASTBEND-3D MT PREMIUM CONTROL

The application of Multi Touch technology reduces the number of keyboard- and button actions to an absolute minimum. The innovative Smart Draft, Design/Bending Multitasking, Step Previewer and Combined Icons features allow the operator a straightforward, intuitive control of the entire production cycle.



NEW STANDARD (NS)

hydraulic top tool clamping and CNC controlled Anti Deflection Table with hydraulic bottom tool clamping

The New Standard Tooling System has proven its flexibility and precision during the last decades in an infinite number of sheet metal working shops. A wide choice of a vast number of top and bottom tools allows for a unpredictable number of applications in various materials and thicknesses.



HIGH SPEED X-R-Z1-Z2 BACKGAUGE

A rigid and accurate backgauge is an absolute condition for precision. High speed is an absolute condition for production output and short cycle times. The PressMaster's X-R-Z1-Z2 backgauge offers both.

PressMaster Series

Standard Execution

- **FastBEND-3D MT Premium control**
 - Smart Draft + MultiTasking + Step Previewer + Combined Icons + Auto Tooling + Part Manager-3D
 - 24" Multi Touch screen
- **Increased Daylight Opening (540mm), Stroke (370mm) and Gap (400mm)**
- **Increased Fast Approach Beam Speed (up to 200mm/s) and Fast Return Speed (up to 170mm/s)**
- **High Speed X-R-Z1-Z2 Backgauge for accurate sheet positioning**
 - Stroke X = 32", speed = 2362"/min
 - Stroke R = 10", speed = 590"/min
 - Speed Z1 and Z2 axes = 2362"/min
- **New Standard (NS) hydraulic top tool clamping**
- **CNC controlled Anti Deflection Table (Crowning) for NS dies**
- **2 Sheet Supports with guiding, manually adjustable in height**
- **LED illumination of the bending area**
- **Less Power Consumption through application of Variable Inverter Drive (= VID) for motor-pump unit.**

The VID technology allows for higher beam return speeds in combination with 'no power consumption with stationary beam.

Your Competitive Edge

A. Ultimate Price-Quality Ratio

B. State-Of-The-Art User Friendly 3D Multi Touch Control

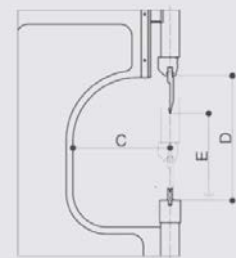
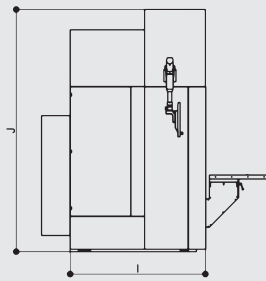
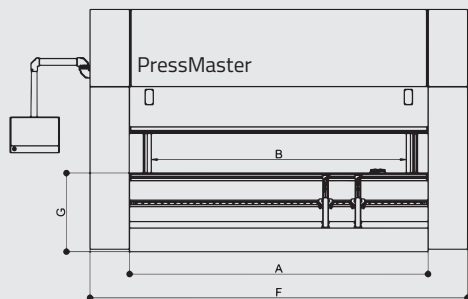
C. Lowest Cycle Times

PressMaster Series

Technical Specifications

	Bending length	Capacity	Distance between housings	Gap	Daylight opening	Stroke	Table Height	Fast Approach Speed	Max. Bending Speed	Fast Return Speed	Motor Power	Length	Width	Height	Weight
	A	T	B	C	D	E	G	"/min	"/min	"/min	HP	F	I	J	Lbs
MODEL	"	T	"	"	"	"	"	"	"	"	HP	"	"	"	Lbs
75 6 5	80	75	63	15,75	21,25	14,56	36	354	23,60	354	15	122	62	115	13228
75 8 6	100	75	83	15,75	21,25	14,56	36	354	23,60	354	15	141	62	115	16976
75 10 8	120	75	102	15,75	21,25	14,56	36	354	23,60	354	15	161	62	115	18078
110 8 6	100	110	83	15,75	21,25	14,56	36	472	23,60	401	15	141	62	117	17857
110 10 8	120	110	102	15,75	21,25	14,56	36	472	23,60	401	15	161	62	117	21164
110 12 10	144	110	124	15,75	21,25	14,56	36	472	23,60	401	15	177	62	117	23810
110 13 10	161	110	124	15,75	21,25	14,56	36	472	23,60	401	15	200	62	117	25794
110 14 10	167	110	148	15,75	21,25	14,56	36	472	23,60	401	15	208	62	117	28219
165 8 6	100	165	83	15,75	21,25	14,56	36	472	23,60	401	20	141	67	117	19180
165 10 8	120	165	102	15,75	21,25	14,56	36	472	23,60	401	20	161	67	117	24251
165 12 10	144	165	124	15,75	21,25	14,56	36	472	23,60	401	20	183	67	117	26455
165 13 10	161	165	124	15,75	21,25	14,56	36	472	23,60	401	20	200	67	117	28881
165 14 12	167	165	148	15,75	21,25	14,56	36	472	23,60	401	20	208	67	117	32187
220 8 6	100	220	83	15,75	21,25	14,56	36	472	18,90	401	25	141	72	117	23810
220 10 8	120	220	102	15,75	21,25	14,56	36	472	18,90	401	25	161	72	117	26455
220 12 10	144	220	124	15,75	21,25	14,56	36	472	18,90	401	25	177	72	117	28881
220 13 10	161	220	124	15,75	21,25	14,56	36	472	18,90	401	25	200	72	117	30644
220 14 12	167	220	148	15,75	21,25	14,56	36	472	18,90	401	25	208	72	117	37479
275 10 8	120	275	102	15,75	21,25	14,56	35	307	18,90	212	25	161	80	117	31306
275 12 10	144	275	124	15,75	21,25	14,56	35	307	18,90	212	25	177	80	117	34172
275 13 10	161	275	124	15,75	21,25	14,56	35	307	18,90	212	25	200	80	117	36156
275 14 12	167	275	148	15,75	21,25	14,56	35	307	18,90	212	25	208	80	117	39463

Specifications subject to modifications without prior notice



NEW STANDARD

Backgauges

Standard and optional



X-R-Z1-Z2 (standard)

Stroke X = 32"

Max. Speed X = 2362"/min

Stroke R = 10"

Max. Speed R = 590"/min

Max. Speed Z1-Z2 = 2362"/min



X-R-Z1-Z2-X3 (optional)

Stroke X = 32"

Max. Speed X = 2362"/min

Stroke R = 10"

Max. Speed R = 590"/min

Max. Speed Z1-Z2 = 2362"/min

Stroke X3 = -2"/+2"



X1-X2-R1-R2-W1-W2 (optional)

Stroke X1-X2 = 23.6"

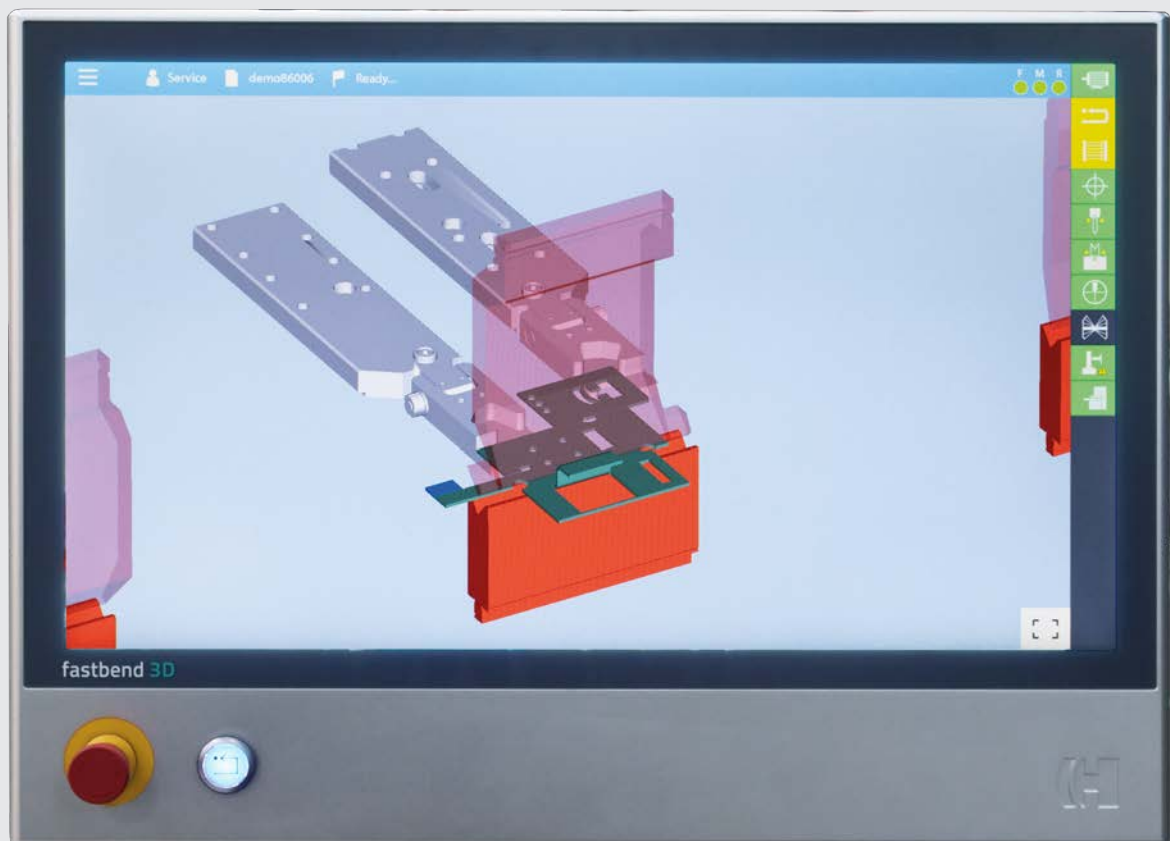
Stroke R1-R2 = 5.3"

FastBEND-2D/3D MT Premium

Intuitive Bending

The **FastBEND-2D/3D MT Premium** Controls set a new standard in the market for flexible, reliable and high precision sheet metal bending.

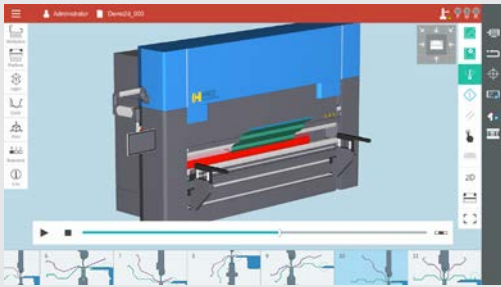
Driven by **state-of-the-art PC-based hardware**, the system allows for very fast data processing and highly accurate calculation of the optimal bending programs for hydraulic CNC press brakes.



FastBEND-2D/3D MT Premium

Intuitive Bending

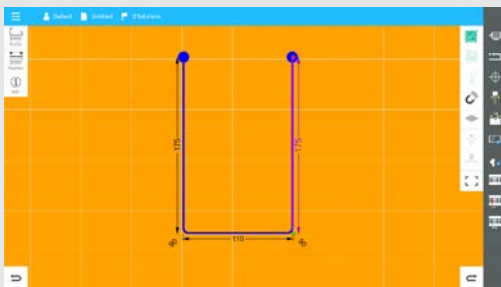
Intuitive Interface with a minimum of interactions to draw the workpiece and generate the corresponding program



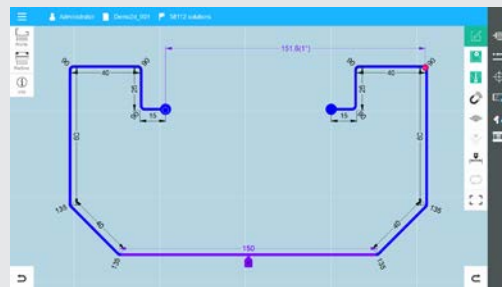
Multi Touch Technology on
24" screen (FastBEND-3D MT Premium)
21,5" screen (FastBEND-2D MT Premium)



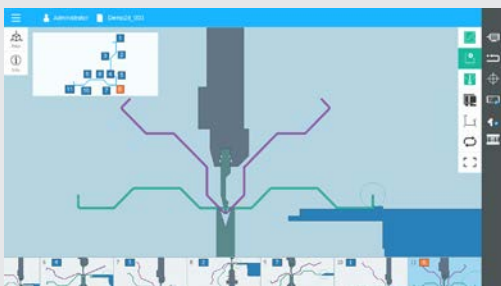
Intuitive Interface with combined numerical-graphical user interface



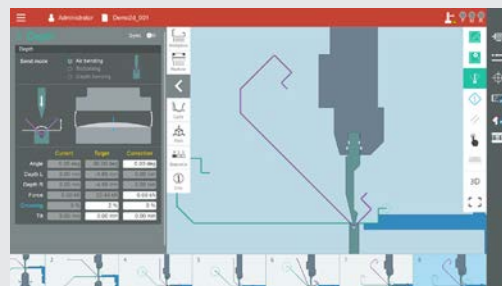
MULTITASKING : workpiece drawing with instantaneous collision detection and calculation of the bending sequence in the background



Point to Point and SMART DRAFT : innovative drawing methods for generating 2D workpieces



STEP PREVIEWER : bar with possibility of horizontally scrolling of the bending steps



COMBINED ICONS : multiple functionalities by means of one single icon

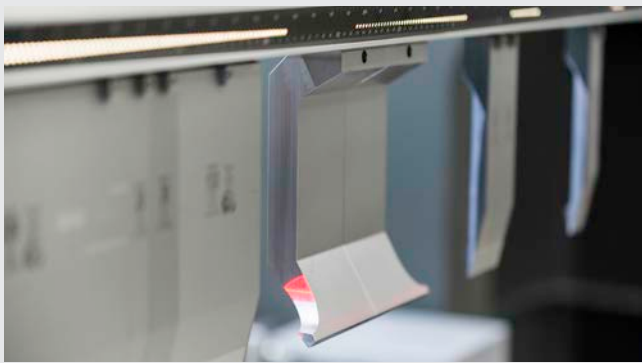
New Standard Tooling System

Standard for PressMaster, Optional for EuroMaster-S

Wila's 'New Standard' Tooling System has become market leader for precision, quality and flexibility. The selfseating and selfaligning features considerably improve your set up times and productivity of your pressbrake. Both bottom (OZU) and top (BIU) tooling are clamped hydraulically. The bottom clamping is integrated in the crowning table.

New Standard tooling is safe: the Safety-Click system (for top tools up to 55 Lbs) enables vertical loading and unloading of your top tooling without any risk. For tools with bigger weight, a safety pin or key is applied.

Working surfaces and bending radii of New Standard tooling are hardened and precision ground for maximum longevity.



MAIN BENEFITS

1. Vertical loading and unloading

2. Self-seating and self-aligning

3. High precision and longevity

Optional Smart Tool Locator

Increase your press brake productivity

The **Smart Tool Locator (STL)** further increases your press brake productivity. The system indicates by means of built-in LED's the right clamping position of your tooling during tool set up and indicates the active tool location in production mode. The Smart Tool Locator offers significant benefits in **speed, precision** and **flexibility**.

Available for all hydraulic New Standard Tool Holders for top and bottom tools.



NEW STANDARD PREMIUM AND PRO TOOLING

Both top (BIU) and bottom (OZU) tools are available in a wide variety of shapes and dimensions. For more detailed information, see the New Standard Tooling Catalogue.

Available for all hydraulic New Standard Tool Holders for top and bottom tools.

Sheet Following Systems

For bending long and thin sheets

Sheet Following Systems are especially recommended when bending **long** and **thin** sheets as they support as well as prevent second bends in your part.

They are very efficient in **supporting heavy parts** during decompression and beam return movement.



The Sheet Following Units are operating electro-mechanically by means of servo motors, with adjustable speed as a function of the applied V-opening.

They can be adjusted vertically in order to suit different die heights.

Picture below:

Special Customized Sheet Following System with 1 telescopic arm inclusive width adjustment of the support surface and height adjustment of the following arm.



Lazersafe Optical Safety Guards

Advanced Safety

CE Safety Regulations require the application of an **Optical Safety Guard (OSG)** when operating at closing speed.

Optical modules (transmitter and receiver) mounted to the ram of the machine monitor the downward movement in the area underneath the top tooling tip. During the fast closing speed, the beam movement is instantaneously stopped when the system detects an obstacle.

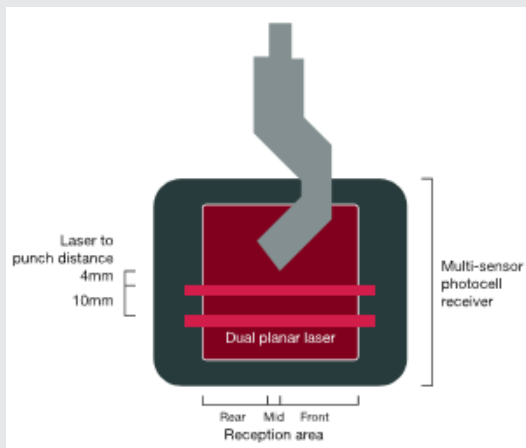
EuroMaster-S and PressMaster can be equipped with **LazerSafe LZS-LG-HS** with mute point 6mm (RapidBend) or with **LazerSafe IRIS** (RapidBend Ultimate) with mute point 0 mm.

BOTH SYSTEMS GUARANTEE

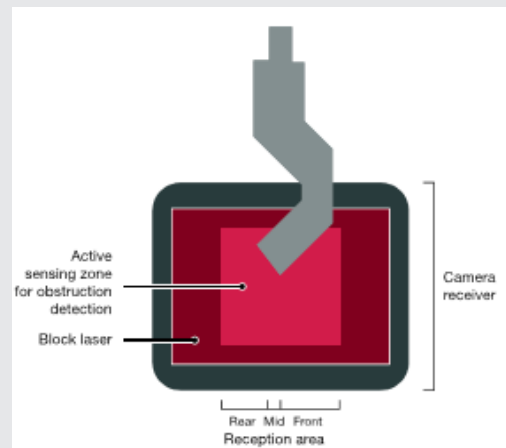
a high level of safety for the operator

a high level of machine productivity

security against tooling collision at high speeds



Lazersafe LZS-L6-HS



Lazersafe IRIS



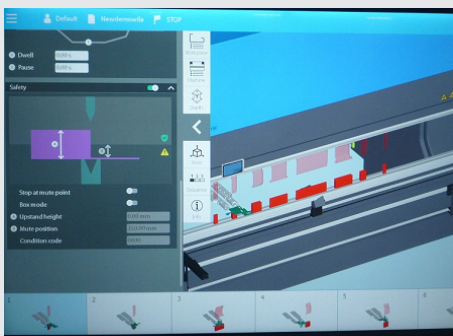
EMS



PM

Lazersafe Optical Safety Guard IRIS Features

- Optimal Speed Change Over Point
- Fast Closing Speed in safe conditions (monitoring till mute point 0 mm)
- Faster cycle times
- Ultimate Operator Safety
- Security against tooling damage
- Full Integration in the CNC System
- Automatic Alignment



NORMAL MODE

All sensors + 3 zones active
 Fast Approach Speed till mute point
 Followed by Working Speed
 (unless interruption by obstacle)



BOX MODE WITH PROGRAMMABLE FLANGE HEIGHT

Programmable flange height
 Extra deliberately foot pedal command
 Front and Rear zone switched off at flange height



MUTE STOP MODE

Applicable for workpieces with flanges which interrupt the monitored zone in normal mode operation.
 Initial fast approach till mute point, consequently operator infeed of the workpiece.

Angle Measuring System Alfa-F

Angle Measurement



EMS



PM



System consisting of 2 laser beam transmitters and 2 camera's on both sides of the workpiece.

Principle :

Angle Measurement

Force reduction + calculation of the springback

Automatic angle correction (taking into account the calculated springback)

FEATURES ALFA-F

- Different V-openings and dies are applicable, preferable single-V's with minimal height of 4"
- Quick manual adjustment along the machine length (optional CNC-positioning)
- Optional parking station if system is not in operation

FEATURES ALFA-F AND IRIS PLUS

- Standard tooling is applicable - no extra cost for internal measuring units
- No contact elements - no mechanical wear
- Contactless angle measurement principle guarantees a reliable system even in heavy duty circumstances.



EMS



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Angle Measuring System IRIS Plus

Angle Measurement

Automatic angle measurement and automatic correction of the bending angle



Active Angle control is a highly accurate angle control process that calculates spring back for each individual bend, then controls the bend depth with Live Angle Bending to achieve the correct angle.

IRIS Plus comprises a laser transmitter and receiver set mounted to the upper beam of the press brake. It includes a high speed digital camera and image data processing system contained within the receiver unit.



FEATURES IRIS PLUS

- Different V-openings (0.31" until 1.38") and dies are applicable, only single V-'s
- Recommendable limitation on the working length: ca. 142"
- Most optimal accuracy results (10 ft or less)
- Never collision with workpiece

FEATURES ALFA-F AND IRIS PLUS

- Compact assembly guarantees an optimal working space for operator and material
- Possibility of measuring on workpieces with apertures
- Guaranteed precision

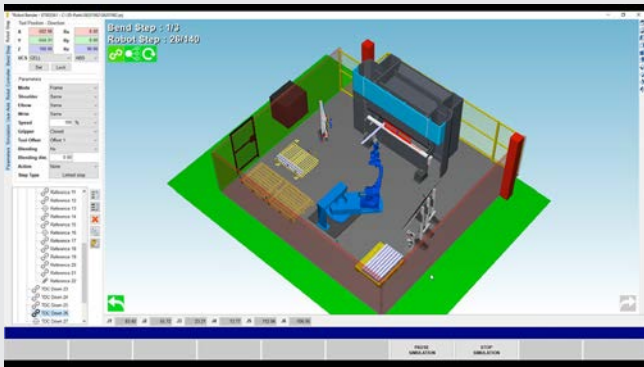
Robot Bending

Standardized cells

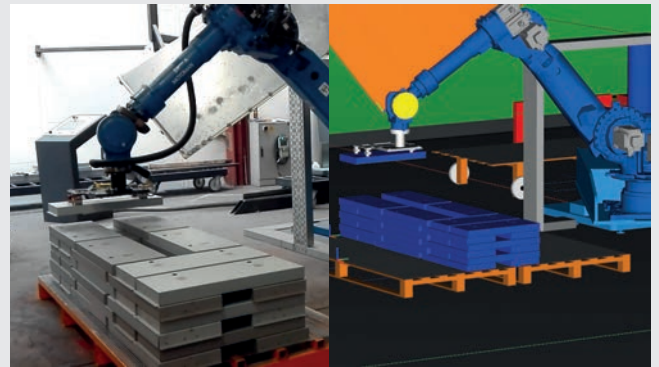
Haco offers standard as well as customised robot bending solutions for a diverse range of applications. Being a pioneer in this field, we offer systems where the complete cell is controlled by one control with both in-house hardware and software technology. Our standard robot bending cells feature press brake specifications from 35" x 24 Ton up to 157" x 220 Ton and part specifications from 11,8" x 11,8" x 6,5 kgs up to 140" x 15" x 150 lbs. Customised systems can be offered for press brake and part specifications well outside the standard ones.

Depending on the characteristics of the application, the robot is selected from reputed manufacturers such as Yaskawa, Stäubli, Fanuc and others.

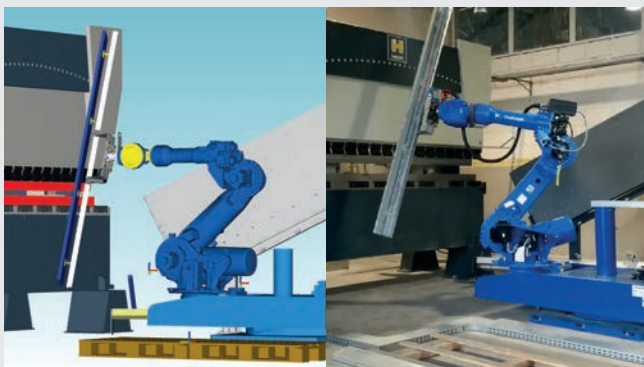
Robot supported bending has become cost effective even for small and medium size batches as CAM and Simulation Software have become very powerful and user-friendly, reducing considerably programming and set-up times and offering full off-line automatic work preparation avoiding standstill of the bending cell.



SOFTWARE : User-friendly offline software for both robot and press brake



REAL VS SIMULATION : Our software solutions offer realistic and useful transition from simulation to reality. (robot positioning for bending)



REAL VS SIMULATION : Our software solutions offer realistic and useful transition from simulation to reality. (robot positioning for bending)



ROBOT BENDING : Provides large gains in efficiency in large batch production of all types of parts.



EMS



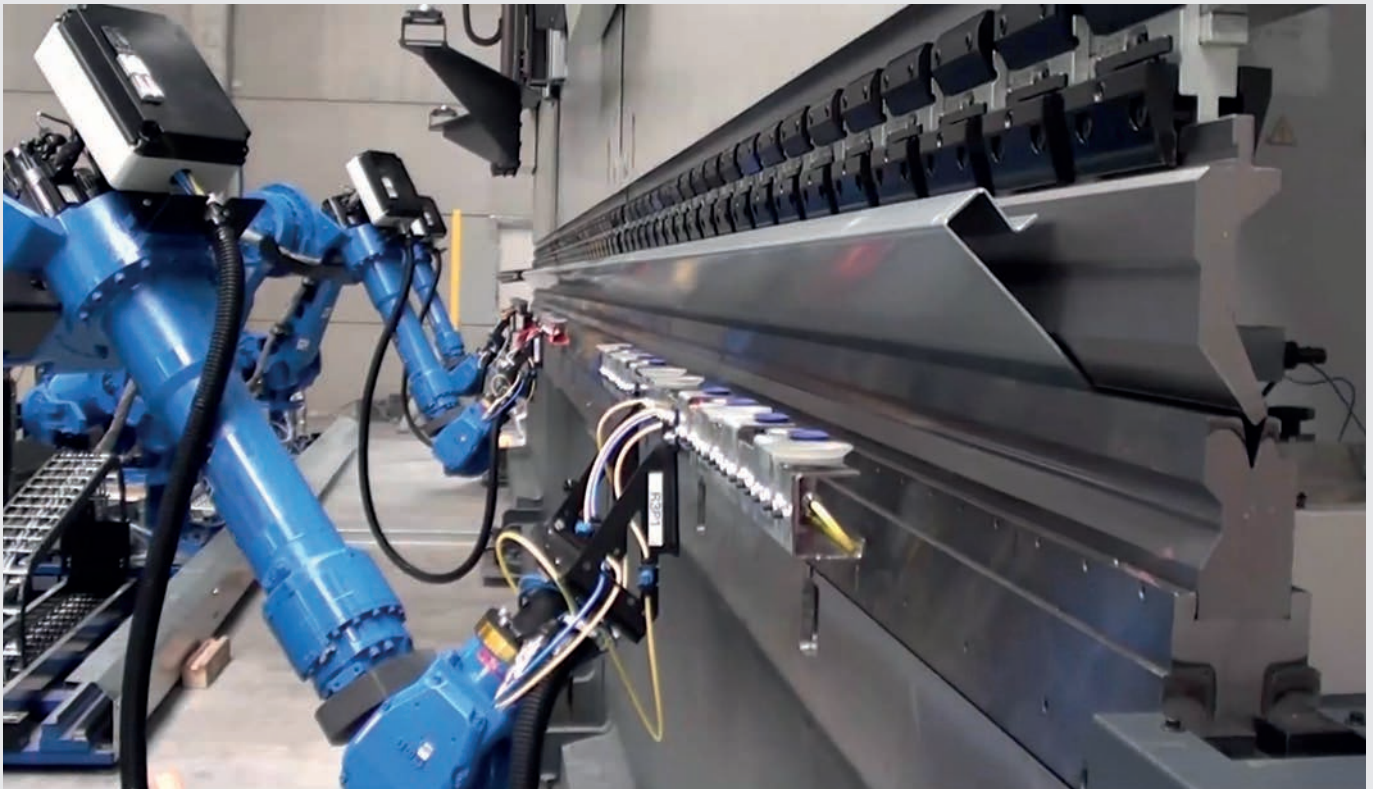
PM

Robot Bending Turnkey Projects

The software deals with all aspects such as digital part input, 3D part unfolding, bending sequence and collision analysis, bending tooling selection, robot handling and bending path determination, press brake program, stacking of finished components, etc... We offer a complete cell, including peripheral equipment such as alignment tables, customised workpiece grippers, automatic gripper- and tooling change arrangements, CE safety specifications and advice for any aspect of the logistics of base plates and finished work pieces.

Robot cells can be extended with rotary tables and linear rails to increase the robot range when e.g. applying press brakes with longer bending lengths.

Additional robots (cobots) increasing efficiency of the bending cell can be added, performing 'out-bending-cycle' operations such as pick, place and preparation of base plates; double sheet detection; etc...



SINGLE, TANDEM OR TRIDEM: Robot bending offers exceptional benefits for large -hard to handle - parts. Ideal for combination in tandem or tridem press brake setup.

Tandem/Tridem Bending Systems

For bending long sheets

HACO offers **customised tandem and tridem solutions** for applications where long bending lengths are combined with moderate tonnage requirements. In a tandem solution, two press brakes are combined in a flush floor set-up with double bending length and double tonnage, saving in foundation cost.



Tandem configurations are an alternative for single unit press brakes that often require high foundation costs.

A tandem press brake combination can be operated as **two single machines** with two operators executing different jobs or **combined in tandem** operation with two operators forming one single large sheet metal part.

A tandem press brake set-up generally doesn't require a complicated and expensive foundation. Both machines are positioned next to each other, each as a single machine, but offering double length and double capacity. Tandem press brakes are executed with deep throat depths to **allow full length parts with big flange lengths**.

HDSY Press Brakes

Heavy Duty SYNchro Bending Systems

HDSY (Heavy Duty SYNchro) press brakes are applied for heavy duty bending applications, requiring high tonnages and/or long bending lengths. These press brakes are p.e. required to bend thick plates of High Tensile materials, requiring several hundreds of tons bending force per meter bending length.

HDSY press brakes are offered in a range of tonnages from 450 Ton up to 2250 Ton and bending lengths from 118" up to 390".

HDSY press brakes feature a rigid frame structure combined with advanced synchro technology to allow high precision leveling and depth setting of the bending beam. Such, in combination with CNC controlled Anti-Deflection Table solutions, a consistent and precise bending angle is guaranteed over the full length. Precise positioning of the workpiece is obtained by means of a wide selection of rigid CNC controlled back gauge configurations.

Depending on your bending application, we advise required specifications and execution of your machine, as well as special top and bottom tooling to suit your needs.





Robot Bending



Fiber Laser Cutting



Punching

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SynchroMaster
EuroMaster-S
PressMaster

For Impressive Performances