



# H-Brake 175T-400T Ultra

Hydraulic press brakes with maximum efficiency

Unfold the future



## The E-evolution in sheet metal working

### Efficiency

The comprehensive solution for faster production

### Ergonomics

Full control of the process operations with one finger

## The future unfolded

As the inventor of the electronic press brake, SafanDarley set in motion a worldwide Evolution in sheet metal working. Even now, SafanDarley continues to work on innovative ways to raise your efficiency levels. With SafanDarley, you will be able to operate at the highest possible level from the get-go and benefit from unique innovations and developments, guided by those people who set the standard: the highest possible standard for integrated sheet metal working.

SafanDarley offers innovative solutions for all varieties of sheet metal working, using game-changing electronic and hydraulic techniques.

SafanDarley unfolds a future in which each sheet metal worker can benefit from opportunities to produce in a more Efficient, Economical, Ergonomic, and Ecological way. Complex products, large and smaller product ranges: process optimization and lean manufacturing with zero defects are a given with SafanDarley, and just-in-time production is guaranteed.

Working with SafanDarley means being able to trust us at our word and knowing we will keep our promises: providing technology that sets the standard in industrial sheet metal working; introducing innovations that actually contribute to maximum operating efficiency; and being a partner that actively contributes high-level ideas and solutions to your problems. SafanDarley will allow you to be ahead of the times and secure your competitive position.



### Ecology

Maximum CO2 and oil reduction



### Economy

Optimum flexibility with Zero Defects



## Smart production in the Smart Industry

SafanDarley leads the way to smarter production with its new technology and its Smart Industry. Smart Industry is an approach that allows industrial companies to take up a strong position by making maximum use of the newest information and technological developments. We do so by implementing far-reaching digitalization and more closely linking equipment, production resources, and organizations, which results in a new, better integrated way of production. SafanDarley ensures production that is more efficient and flexible, of higher quality, and tailor-made.

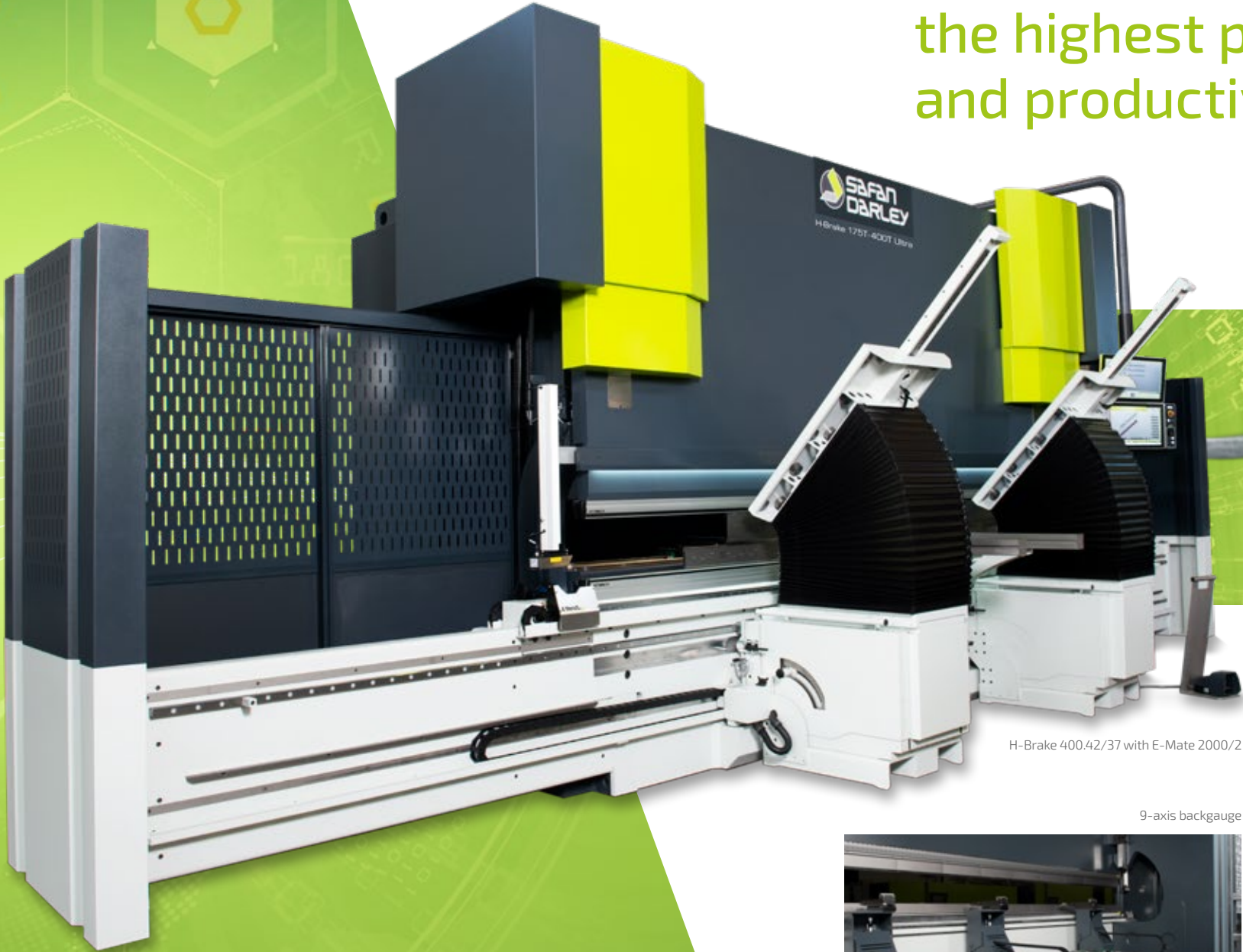
Put in more concrete terms, 'Smart Production' means improvement of your OEE or Overall Equipment Effectiveness. We consider your every need to make sure that our machines fit into your production line perfectly. Our purpose in employing our machines, software, data communication, robotization and human guidance to aid you is to ensure optimization of your manufacturing processes with zero defects.

Improvement of your Overall Equipment Effectiveness is easy once you have SafanDarley as a part of your production process. To put it more concretely, it is hardly rare for companies' OEE to increase by 30%.

## SafanDarley H-Brake

The H-Brake represents the highest level of quality in every respect. Because of the improved specifications and its newly designed parts, the SafanDarley H-Brake enables exceptionally fast, reliable, and high-quality production. Moreover, the new H-Brake offers game-changing opportunities for the production process to be more environmentally friendly, which is unique in the heavy hydraulics segment. Not only the environment benefits from these opportunities, but the benefit of your monthly energy bill being much lower! As is to be expected of a SafanDarley product, there is a wide range of options you can choose from to optimize your production process using the H-Brake.

# SafanDarley H-Brake, the highest precision and productivity levels

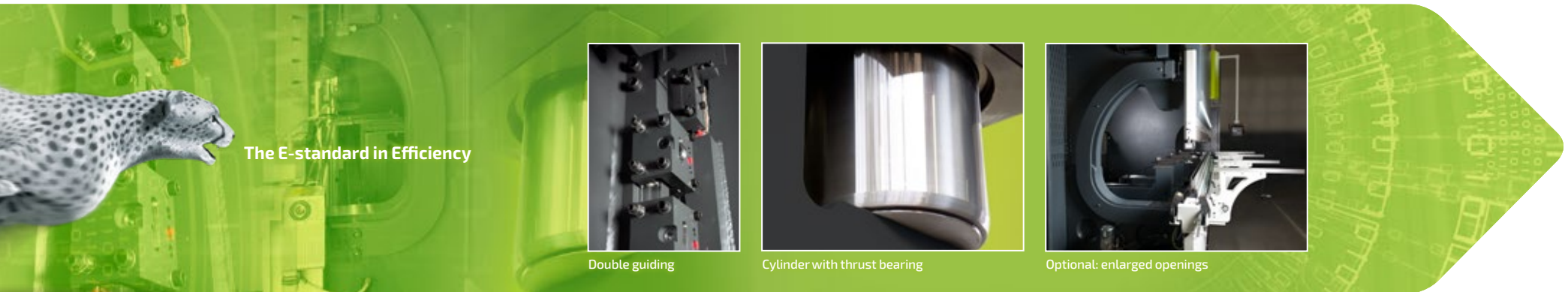


H-Brake 400.42/37 with E-Mate 2000/2

9-axis backgauge Side view



The elegant design and attractive finish of the machine hides its robust internal construction, which features a large space between the side frames, a large throat depth, and a high standard Q-dimension (see page 19 for more information). This allows you to use the machine to its maximum capacity by using its full working length. In developing the machine, Safan and Darley combined their expertise and know-how regarding hydraulic bending solutions. The result is a machine with an even higher level of productivity that delivers flawless precision work.



The E-standard in Efficiency



Double guiding



Cylinder with thrust bearing



Optional: enlarged openings

## Client-specific efficiency

An important characteristic of the new H-Brake is the fact that it has been designed with production efficiency in mind. For example, the frame is held together with bolts instead of being welded together. The complete range of H-Brake parts – machine frame, components, and outer covers – has been standardized, resulting in an optimized production process.

The new H-Brake features a double press beam guiding system, cylinder suspension using thrust bearings, and a completely newly developed modular backgauge system, among other things. Among the extra options

that you can choose from is an energy-saving Start-Stop system using a frequency regulator, several optional CNC-controlled bending aids, and the new E-Bend L blue Laser angle measuring system.

Apart from these efficient and environmentally friendly features and options, SafanDarley also offers the option of customizing your H-Brake, allowing the Q-size, stroke, and depth of the openings to be adjusted according to your personal preferences.

# Wide range modular backgauge

An important innovation in the SafanDarley H-Brake is the modular backgauge. It ensures a high level of flexibility and diversity. Depending on which version of the basic model you get, the backgauge can be easily upgraded even after you have started using the machine.

The wide range of options allows you to customize the backgauge configuration to fit your personal needs. It is hugely important that you end up with a backgauge that meets all of your requirements.

SafanDarley offers a wide variety of backgauges ranging from 2 to 9 CNC-controlled axis, so that you can opt for the backgauge system that suits your production needs best. We use the most advanced techniques out there so that we are able to realize optimum accuracy as well as high traversing speed. You will be able to bend even the most complex products without having to access the rear of the machine.



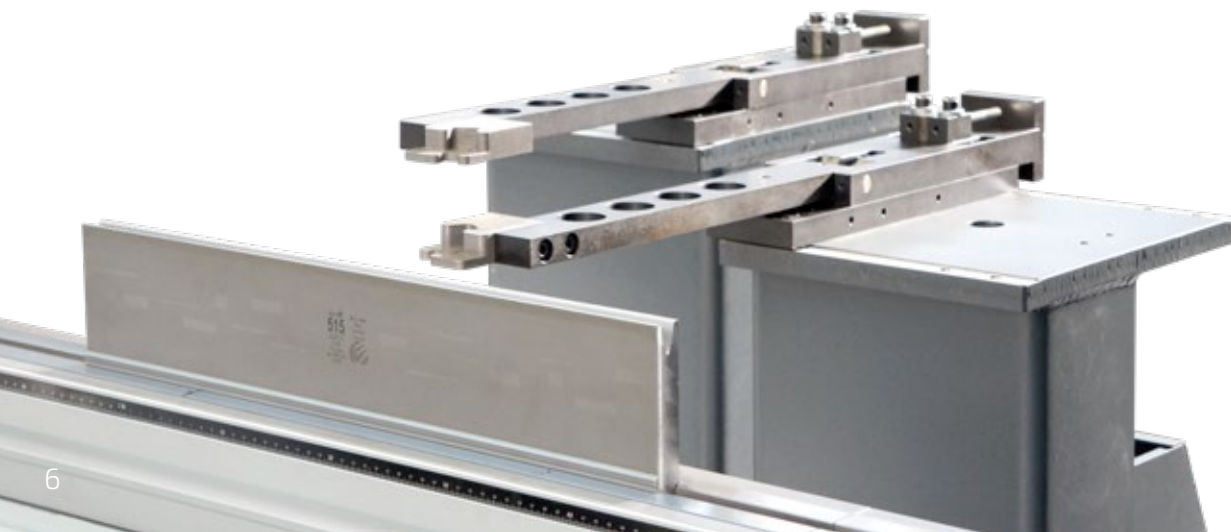
Heavy backgauge



Backgauge using X, R and Z1 + Z2-axis



Backgauge using X, Z1 + Z2, R and Delta X axis



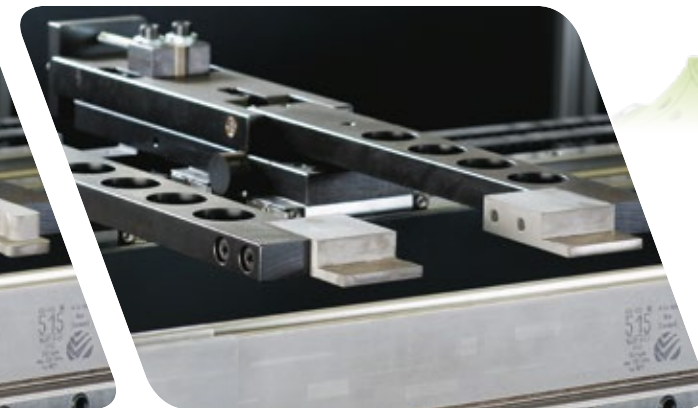
Unique  
options

## Options for optimal finger stops

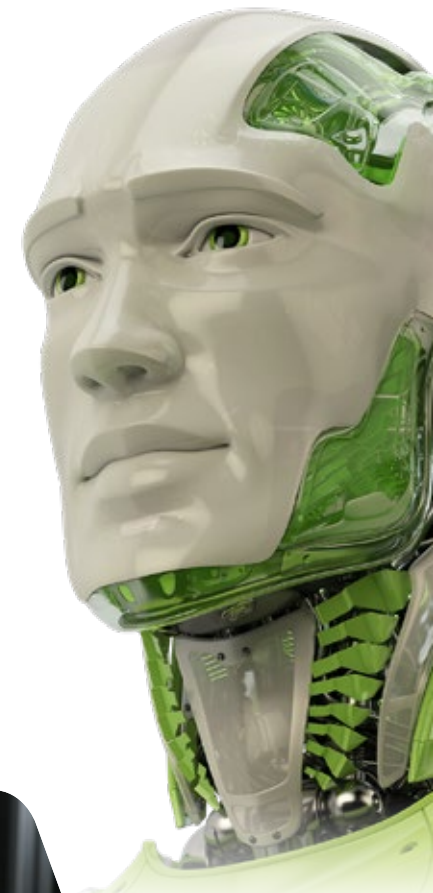
The specially developed 3D finger stops are automatically positioned to surround the product on all sides through the controls. This makes it possible to produce complex products with a high precision rate. The finger stops are equipped with mechanical shock absorbers for protection and to prevent wear.



3D end stops



Standard end stops



# Offline 3D-programming in three simple steps

## 01 Importing and unfolding

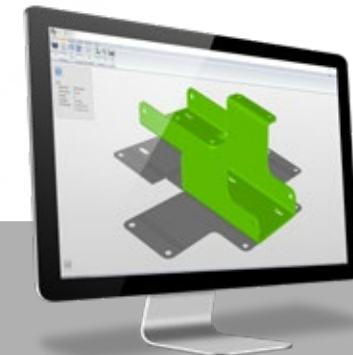
The software will automatically determine the correct results, optimum bending sequence, stop positions, and optimum tool set-up with as few manipulations as possible based on an imported 3D model. You also have the option of adjusting the bending sequence and stop positions manually.

## 02 Bending simulation

A complete 3D bending simulation allows you to check the entire bending process. A CNC program containing all of the offset data will then be generated. This powerful software ensures product-accuracy from the get-go.

## 03 Production

Retrieving the data package from the network using the controls and start your production on the brake. The NC program and the bending simulation will appear on the bottom screen, and other data such as the technical drawings, video, notes, etc. will appear on the top screen (this is optional).



## 01 Importing and unfolding



# Comprehensive solutions using offline 3D-programming

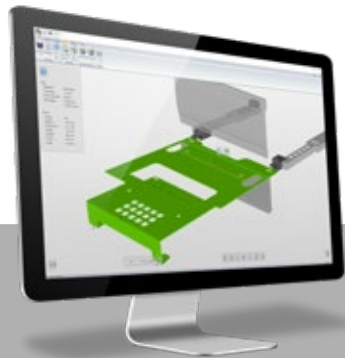
SafanDarley offline 3D programming stands for complete and reliable process management. As opposed to several widely used CAD/CAM systems, our system is very user-friendly and requires only a short 2-day training period.

The design program includes an ingenious simulation and control module for using the press brake that can be remote-controlled, from the office for example. This limits the time during which the machine is at a standstill, thus maximizing productivity.

The system consists of 3 simple steps. Fast and flawless work is the SafanDarley standard.

Offline programming offers you plenty of ways to do 3D Design and to import and correctly produce 3D drawings. If the employee using the program is also the one controlling the press brake, an NC code for the system may be generated instantly. The program will then select the necessary tools and optimize the machine. A work planner can even switch to a different press brake at the last moment, re-generate the NC code and run a collision check.

To conclude: H-Brake allows you to streamline your manufacturing processes, even when used in conjunction with other CAD and CAM systems.



02 Bending simulation



03 Production





2D programming (EC20)

3D bending instructions (EC20)



## Easy control using Touch-controls

For the new H-Brake range, you can choose from either our newly developed E-Control or the existing Delem controls, giving you more flexibility. This allows you to fully integrate the H-Brake line into your existing production environment. Both E-Control and the Delem controls (Delem control on request and available on a tandem press brake) are state of the art, each with their own unique focus.

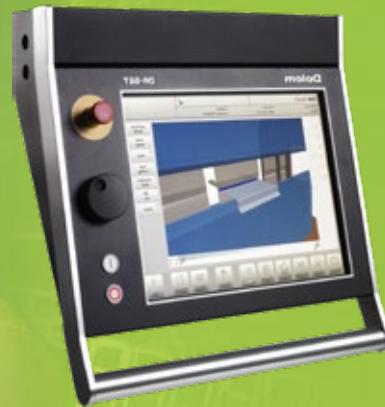
### E-Control, the new E-standard in ergonomics

The new SafanDarley E-Control controls are the result of years of research and optimization. They were developed with the goals of speeding up the manufacturing process and ensuring easy operating of the machine in mind. The self-learning database is easy to grasp and guarantees optimum results every time. Moreover, the E-Control controls can be equipped with a double screen to display additional information.

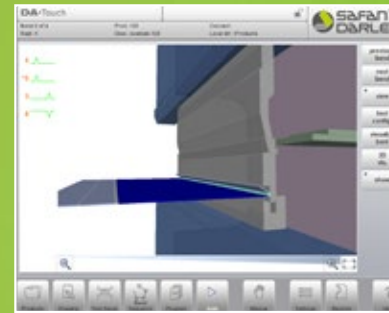
### Delem, advanced precision (on tandem press brakes)

The Delem controls are widely used and are known for their precision, adjustment options and reliability. Both 2D and 3D programming is an option for several models, including the most advanced options such as automated bending sequence calculation and importing .dxf files.

Real time connectivity



Delem 66T



3D bending instructions (Delem 66T)



## E-Control control

Type	Features	Can be controlled off-line with
EC20	<ul style="list-style-type: none"> <li>- Colour Touch screen 21"</li> <li>- Numerical programming of products by means of Touch Screen</li> <li>- Numerical display of bending parameters</li> <li>- Use of up-to-date database</li> <li>- 2D and 3D Graphic display of offline-programmed products</li> <li>- 2D Programming of products using Profiler</li> <li>- Automated bending sequence calculation</li> <li>- Bending simulation</li> </ul>	SafanDarley EC Software - Delem Profile - Delem V Bend - Autopol - Radan
EC30	All of the EC20 features as well as the following: - 3D Graphic programming of products	SafanDarley EC Software - Delem Profile - Delem V Bend - Autopol - Radan

## Delem control

Type	Features	Options	Software
Delem 66T	<ul style="list-style-type: none"> <li>- Color Multi Touch Screen 17"</li> <li>- 2D programming</li> <li>- 3D visualization of 2D products</li> <li>- Qwerty touch keyboard</li> <li>- USB 2.0 connection</li> <li>- Network connection 100 MB Ethernet</li> </ul>	3D visualization of externally programmed 3D products 2D DXF importing	<ul style="list-style-type: none"> <li>- Delem Profile</li> <li>- Delem V Bend</li> <li>- Autopol</li> <li>- Radan</li> </ul>
Delem 69T	<ul style="list-style-type: none"> <li>- Colour Multi Touch screen 17"</li> <li>- 3D programming</li> <li>- 2D &amp; 3D DXF Importing</li> <li>- Qwerty touch keyboard</li> <li>- USB 2.0 connection</li> <li>- Network connection 100 MB Ethernet</li> </ul>		<ul style="list-style-type: none"> <li>- Delem Profile</li> <li>- Delem V Bend</li> <li>- Autopol</li> <li>- Radan</li> </ul>

# Bending using E-efficient options

Fast, simple, and reliable measurement of sheet thickness and angles is often an absolutely essential part of the bending process. The SafanDarley E-evolution allows you to stay ahead of the game even in this area. The two SafanDarley E-Bend systems will increase your efficiency by enabling you to perform accurate sheet thickness and angle measurements.

## SafanDarley E-Bend S

The SafanDarley E-Bend S sheet thickness measurement system is mounted by the left finger stop. The system measures the sheet thickness down to thousands of an inch. You can also set the exact time at which the measurement should be taken.

It only takes a tenth of a second for the machine to measure the sheet and any changes to the data are automatically made in the controls. The control's database keeps record of all measurements and plots them graphically.

## SafanDarley E-Bend L Blue

The system consists of two laser sensors, positioned on each side of the table, which are CNC-controlled. The system monitors and corrects the Y-axis continuously based on the current product angle and, as such, ensures that you will end up with a finished product with maximum angle precision. The system will adjust crowning automatically and also takes into account any potential springback.

The E-Bend L Blue can be used in 3 different ways:

- Angle measurement using springback measurement
- Angle measurement using the database
- Angle measurement using learned bending

For angle measurement using springback, the E-Bend L Blue measures in one of three positions during the bending process, corrects the crowning and parallelism (Y1 & Y2) and measures the springback. This data is then stored in the database. For angle measurement using the database, this database is then used. This ensures that the bending process is faster, resulting in zero time loss.



SafanDarley E-Bend S



SafanDarley E-Bend L Blue

# The most versatile bending aids

The new SafanDarley CNC bending aids provide you with unprecedented flexibility and versatility. For example, both height and V-size are variable and easy to adjust on the bending aid. As a result, the new SafanDarley E-Mate bending aids can be used in conjunction with practically all dies instead of being compatible with only one type of die. The E-Mate plus and E-Mate 2000 truly are an E-evolution in sheet support!

## E-Mate plus

- Electrically powered CNC bending aid controlled by an AC Servo motor
- The E-Mate plus has a bending movement of 168,6 lbs
- Movable on linear rails and can be removed using a pallet truck
- Bending aid movements synchronous with that of the pressing beam
- Manual V-groove setting ranging from  $V = 0,24''$  to  $V = 1,97''$
- Programmable bending speed and retraction speed
- Support arm 47,24" in length, extendable up to 70,87"

## E-mate 2000

- Electrically powered CNC bending aid controlled by an AC Servo motor
- The E-Mate 2000 has a bending movement of 1475"/lbs
- Movable on linear rails and can be removed using a pallet truck
- Bending aid movements synchronous with that of the pressing beam
- Manual V-groove setting ranging from  $V = 0,24''$  to  $V = 5,91''$
- Programmable bending speed and retraction speed
- Table with steel rollers, 23.62" x 39.37", equipped with extended support arm of up to 62.99"

SafanDarley E-Mate plus





The E-standard in Ecology



Start/Stop system

Working in a more efficient and ecological manner using the new H-Brake

# H-Brake, the greener choice

The new SafanDarley H-Brake's design isn't the only thing that's green; the machine can also be equipped with environmentally friendly technology. For example, SafanDarley allows you to equip the H-Brake with an energy-saving Start/Stop system.

In conventional press brakes, the main motor runs continuously and as such, the machine's energy consumption is continuous as well. The H-Brake's Start/Stop system offers a green alternative; in this system, the main motor is switched off whenever the machine's not actually moving.

During the fast descent of the press beam (which is set in motion by gravity), the Start/Stop system automatically restarts the main motor, thus creating an optimum production cycle with minimum start-up times. This efficient use of energy results not only in considerable savings in your energy costs, but also reduces CO2 emissions.

Because the combination of the main motor and pump runs fewer hours, it will experience less wear, the oil won't reach temperatures as high as it normally would and thus will maintain a higher quality for longer and

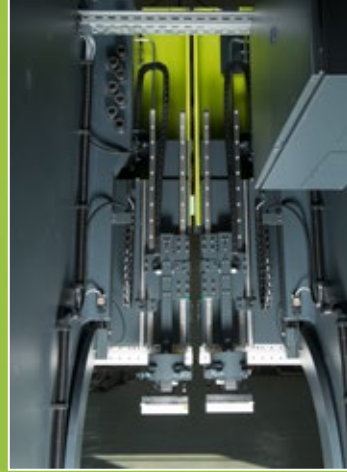
will need to be replaced less often. The SafanDarley Start/Stop system thus offers both ecological and economic advantages.

#### Let's list the advantages again:

- Reduced energy costs
- Reduced CO2 emissions
- Reduced noise pollution
- Requires less maintenance
- Extended oil lifespan

Moreover, you have the option of using bio-oil in your H-Brake to make it the most environmentally friendly machine it could possibly be.





LazerSafe in independent use



LazerSafe in tandem use



LazerSafe in independent use



2 x H-Brake 175.42/37

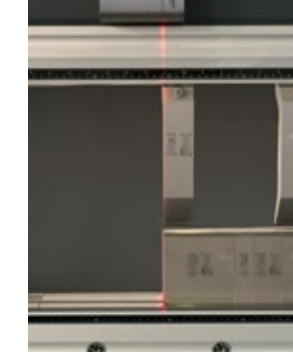
## H-Brake tandem use

SafanDarley offers a wide range of flexible solutions to enable the tandem use of press brakes. A tandem press brake is a combination of 2 press brakes that have been mechanically aligned and can run in perfectly synchronized fashion via a tandem connection. The major advantage of this approach compared to one larger press brake is that it allows for more flexibility, because as both machines are working perfectly in sync,

you have the option of producing much longer products. You can also use the two press brakes independently from one another, allowing you to double your capacity for producing shorter-length products. Another advantage is that, depending on the capacity, a specially-made foundation is often unnecessary.



Tool Cabinet



Tool Positioner

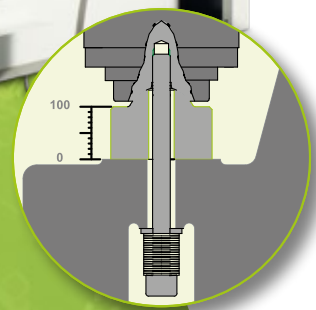


LED Smart Tool Locator



**SAFAN DARLEY**  
H-Brake 175T-400T Ultra

Integrated safety light curtain



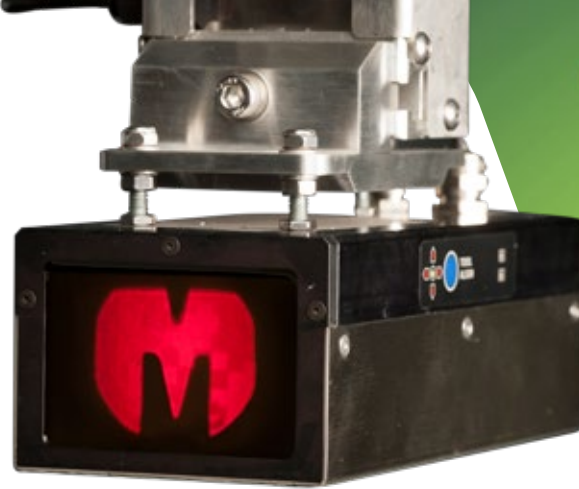
Flexible Q-size

# In perfect harmony with your toolset

The synchronization between press brake and toolset is vital to achieving the highest possible efficiency in the production process. A perfectly aligned press brake requires 100% perfect tools. This is why SafanDarley advises you to use only the highest quality tools. SafanDarley lets you use these tools with maximum efficiency and perform maintenance on them using the Tool Positioner, Tool Cabinet, and Smart Tool Locator.

The extensive tool applications and the flexible sizing of the H-Brake enable us to create client-specific bending solutions for any production process. Our tried and tested technology allows SafanDarley to increase the stroke and Q-size without having to make major adjustments to the overall construction. This gives you the freedom to tailor the H-Brake to fit your every need.





LazerSafe Block laser



LazerSafe LZS-004

## H-Brake ensures a high safety level

The side paneling on both sides of the machine may be removed, allowing you to perform low speed bending work in this area. There is an emergency stop on the controls that is within easy reach for the operator. The controls are also equipped with a software-based security system that allows you to work with the machine on different levels.

The different types of controls work well in conjunction with various safety set-ups. E-Control is installed with a safety light curtain including floating blanking and 1 stroke or 2 stroke functions, and the light curtain is neatly integrated in the moveable side paneling.

The system can operate up to 0,04" above the bottom tool set at its approaching speed. Delem controls use LazerSafe light beam protection, with the option of adding a so-called Block Laser which results in a time gain of 2 seconds per bend compared to the conventional LazerSafe. The LazerSafe system can of course also be used in conjunction with the E-Control controls.

The settings of the various operating modes of both systems can be adjusted using a lockable switch on the electronic cabinet. When using a light screen, the operator can select the optimum (fastest) method for each step in the bending process manually. When operating the machine

using your feet, the maximum closing speed of the upper beam is always less than 0,4" per second, unless the safety system has been engaged. Only if such additional safety systems have been engaged can the speed of the upper beam ever exceed 0,4"/sec.

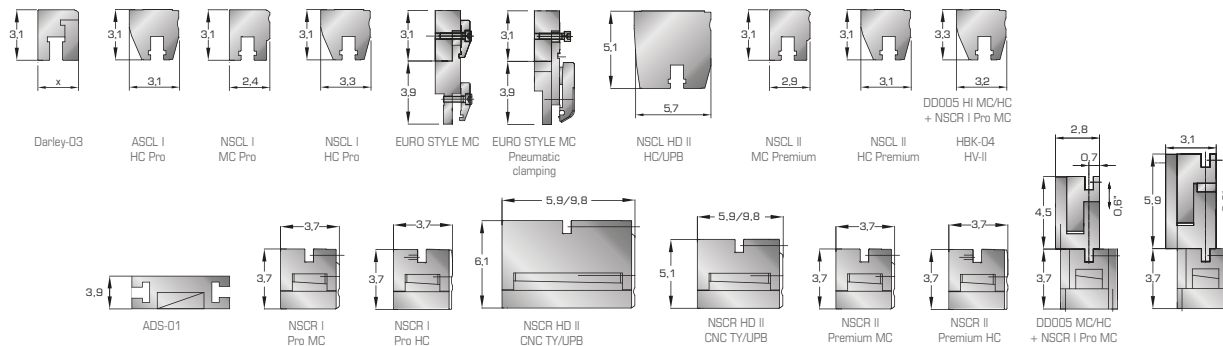
An additional (optional) control panel is required if 2 operators will be working on the machine simultaneously. This control panel can also be programmed to allow the operator to control the machine from 2 different locations.

# Standard edition

## Standard edition of the H-Brake

- E-Control EC20 controls
- Delem DA 66T 2D control on request and available on a tandem press brake
- Controls mounted on a swiveling arm on the right side of the machine
- Y1/Y2 axis are CNC-powered
- X axis is CNC-powered
- R axis is CNC-powered
- Z1 and Z2 axis are controlled manually
- Wila NSCL-II Premium top tool adaptor equipped with mechanical clamping, with a maximum load of 84,0 US Ton/ft top-bearing and 100,8 US Ton/ft shoulderbearing and CNC deep-hardened tool clamping
- Wila NSCR-II Premium CNC-powered crowning using mechanical clamping, CNC deep-hardened tool clamping, maximum load 300 T/mtr, Tx/Ty alignment
- 2 support arms (11,8")
- LazerSafe light beam protection, type LZS-004 (Delem)
- Programmable and integrated safety light screen (E-Control)
- Foot pedal including "Hold To Run" function
- Work area lighting on the front and rear side of the machine
- Electronic installation of mains connection 3/N/PE 50 Hz 230/400 VAC
- Machine is designed in accordance with the prevailing CE standards

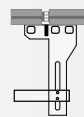
## Tool adapters SafanDarley H-Brake



## SafanDarley allows you to choose from a wide variety of support arms

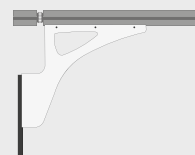
### Fixed support arms - standard

Support length: 11,8"  
Support strength: 56,2 lbs  
Adjustable by means of bolts



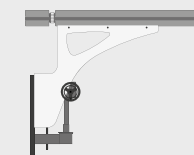
### Moveable support arms - optional

Support length: 39,4"  
Support strength: 337,2 lbs  
Adjustable by means of bolts



### Moveable support arms with adjustable height settings - optional

Support length: 39,4"  
Support strength: 337,2 lbs  
Adjustable by means of a hand wheel



### Moveable pneumatic support arms - optional

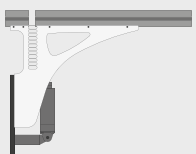
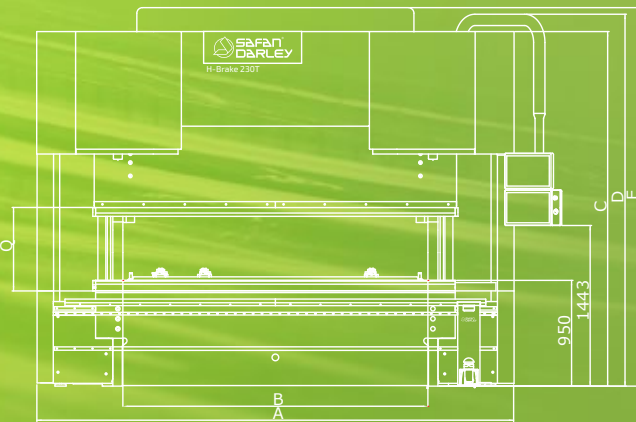
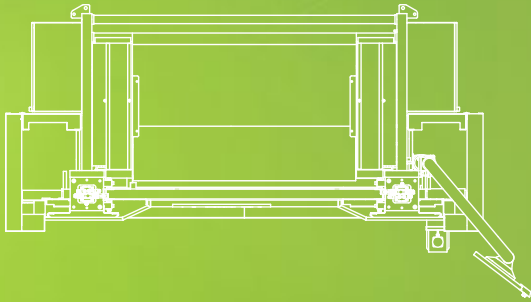
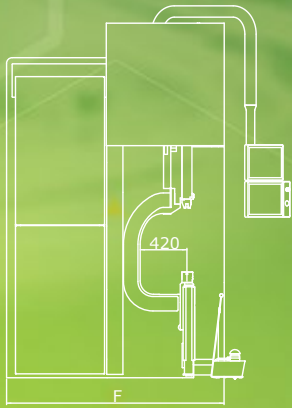
Support length: 39,4"  
Support strength: 224,8 lbs  
Adjustable by means of a pneumatic system with 2 positions

# Technical specifications of the SafanDarley H-Brake

## H-Brake Model

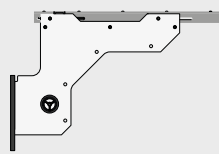
H-Brake Model	Pressing force in US Ton	Operational length in ft	Stroke in inches	Q in inches	Approach speed in inch/sec.	Maximum bending speed in inch/sec.	Return speed in inch/sec.	Regular motor power in kW	Weight in lb	A in inches	B in inches	C in inches	D in inches	E in inches	F in inches	Noise level in dB
175.31/25	197	10	12	23-27	8	0,4	6	15	26.455	155	108	116	121	116	79	< 70
175.37/32	197	12	12	23-27	8	0,4	6	15	29.983	187	128	116	121	116	79	< 70
175.42/37	197	14	12	23-27	8	0,4	6	15	34.392	201	148	116	121	116	79	< 70
230.31/27	259	10	14	26-30	5	0,4	5	18,5	35.274	161	108	131	136	131	81	< 70
230.37/32	259	12	14	26-30	5	0,4	5	18,5	38.581	157	139	125	136	125	81	< 70
230.42/37	259	14	14	26-30	5	0,4	5	18,5	42.990	209	148	125	136	125	81	< 70
320.31/27	360	10	14	26-30	5	0,3	5	30	42.990	170	108	125	136	125	98	< 70
320.37/32	360	12	14	26-30	5	0,3	5	30	47.399	191	128	125	136	125	98	< 70
320.42/37	360	14	14	26-30	5	0,3	5	30	51.809	213	148	125	136	125	98	< 70
320.51/43	360	17	14	26-30	5	0,3	5	30	56.218	233	172	125	136	125	98	< 70
320.62/51	360	20	14	26-30	5	0,3	5	30	65.036	280	201	125	136	125	98	< 70
400.42/37	450	14	14	26-30	3	0,2	3	37	70.548	211	148	128	138	146	98	< 70
400.51/43	450	13	14	26-30	3	0,2	3	37	79.366	233	172	128	138	146	98	< 70
400.62/51	450	20	14	26-30	3	0,2	3	37	97.003	258	201	128	138	146	98	< 70

Besides this range of standard machines, SafanDarley also carries a range of Heavy Duty machines of a 551 to 1378 US Ton capacity. Please ask one of our sales consultants for more information.



**Heavy-duty moveable support arms with adjustable height settings - optional**

Support length: 39"  
Support strength: 450 lbs  
Adjustable by means of a hand wheel





Watch our corporate movie here:



E-Brake 35T-40T  
Premium Ergonomic



E-Brake 35T-130T Premium



E-Brake 50T-130T Ultra



E-Brake 160T-200T Ultra



E-Brake 300T Ultra Dual Drive



E-Brake 35T Mini Cell



E-Brake 160T-200T ITC



H-Brake Hybrid 110T-1600



H-Brake Hybrid 110T-170T  
Premium



H-Brake Hybrid 110T-170T  
Ultra



H-Brake 175T-400T  
Ultra



H-Brake HD 500T-1250T  
Ultra



R-Brake 130T



B-Shear & M-Shear



Special cutting lines

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