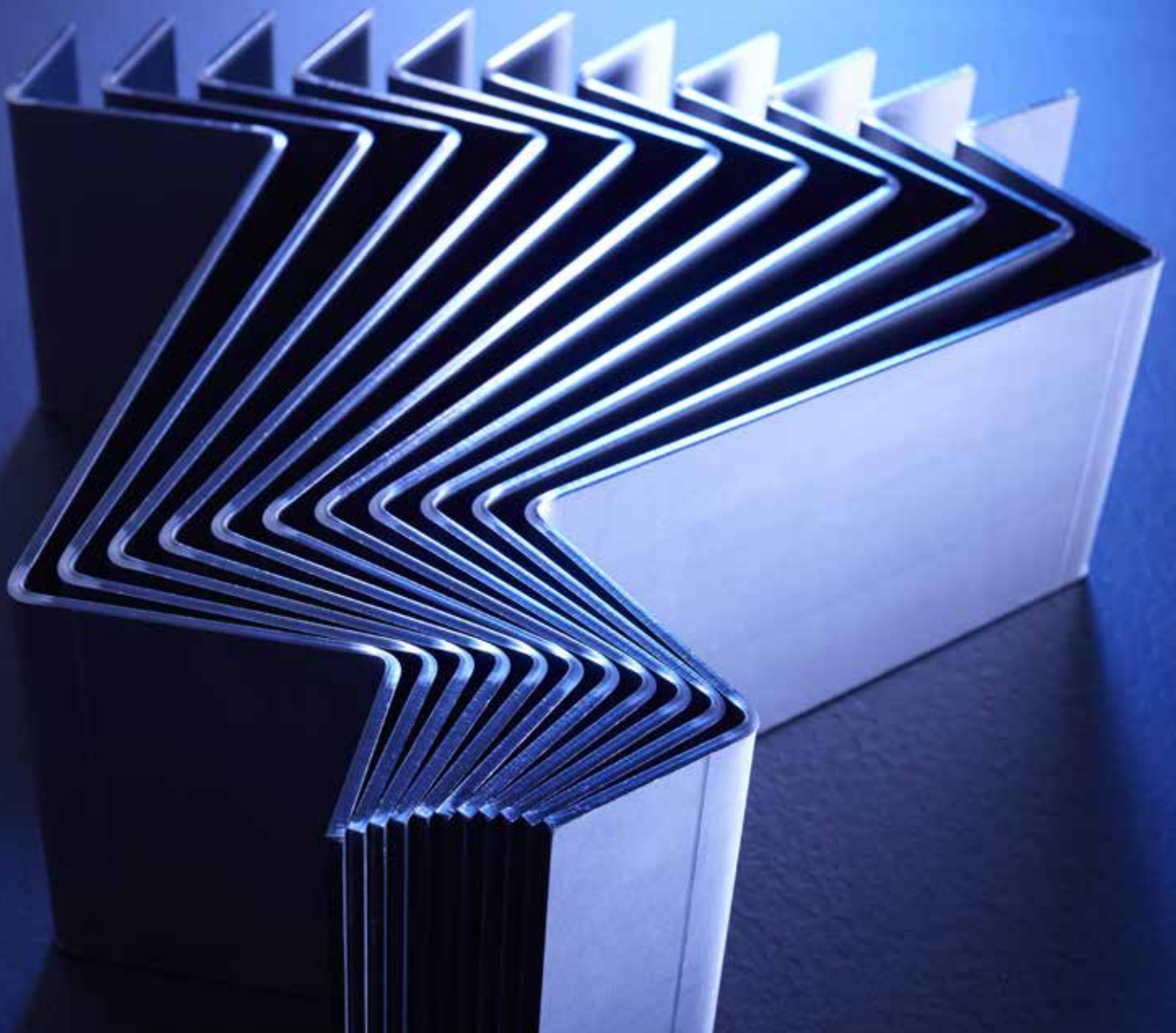
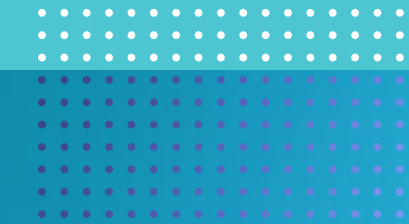


*Hydraulic
press brakes*

EASY-FORM[®] SERIES

THE ULTIMATE BENDING MACHINE



EASY-FORM® SERIES

THE ULTIMATE BENDING MACHINE

The Easy-Form® Series are smart, highly accurate bending machines through the integration of advanced technology and software.



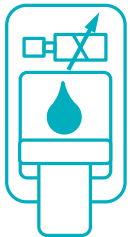
STATUS LIGHTING

LED lights indicate the machine status.



INTUITIVE CONTROL

The 19" Touch-B control is user-friendly and makes full use of the machine's bending capabilities.



SERVO-CONTROLLED HYDRAULIC SYSTEM

The hydraulic components are machined in-house to a high standard from a solid steel billet. The hardened steel pistons are precisely finished and micropolished for a lifetime of trouble-free service.



RIGID FRAME DESIGN

Easy-Form® models up to 400 ton/4m have a one-piece welded frame that can be installed at floor level. Longer bed lengths and higher pressing forces may require modified floor arrangements.





LED WORK ZONE LIGHTING SYSTEM

The backgauge and front work zone areas are illuminated for improved visibility.



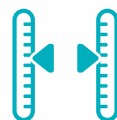
EASY-FORM® LASER ADAPTIVE BENDING

LVD's in-process angle monitoring system adapts in real-time the punch position to ensure precise, consistent bending.



CNC CROWNING

The Easy-Form press brake is equipped with an in-house developed and machined, tailor-made V-axis crowning system.



LINEAR ENCODERS

Bed-referenced linear encoders ensure precise control of the upper beam position and repeatability.



BACKGAUGE

The 2-, 5- or 6-axis backgauge is automatically positioned for optimum bending results.



ACCURATE BENDING

LINEAR ENCODERS

Referenced encoders are connected to the bed in such a way that deformation during bending does not influence the positioning accuracy of the ram ($Y1$, $Y2$).

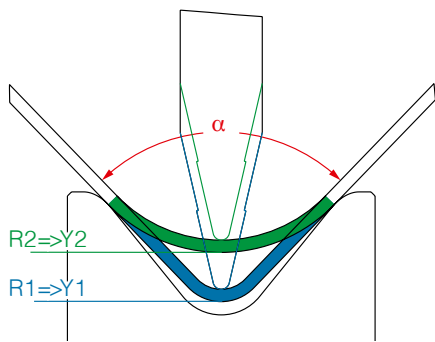


Fig. a

EASY-FORM® LASER (EFL) ADAPTIVE BENDING SYSTEM

EFL guarantees the desired angle from the first bending operation. The angle measuring system consists of two laser scanners located on the front and back of the table.

The unique aspect of EFL is that it uses V-die reference instead of sheet reference. EFL rapidly measures up to 100 samples per second between the die and the sheet. The scanners are linked to the CADMAN database containing a tooling library and proven bending results.

As the bending sequence of the press brake is initiated, the EFL system transmits the digital information in real time to the CNC control unit, which processes it and immediately adjusts the punch position to achieve the correct angle. The bending process is not interrupted, and no production time is lost.

The unique design of the Easy-Form® Laser system allows the machine to adapt to material variations such as sheet thickness, strain hardening and grain direction, automatically compensating for any changes (Fig. a).



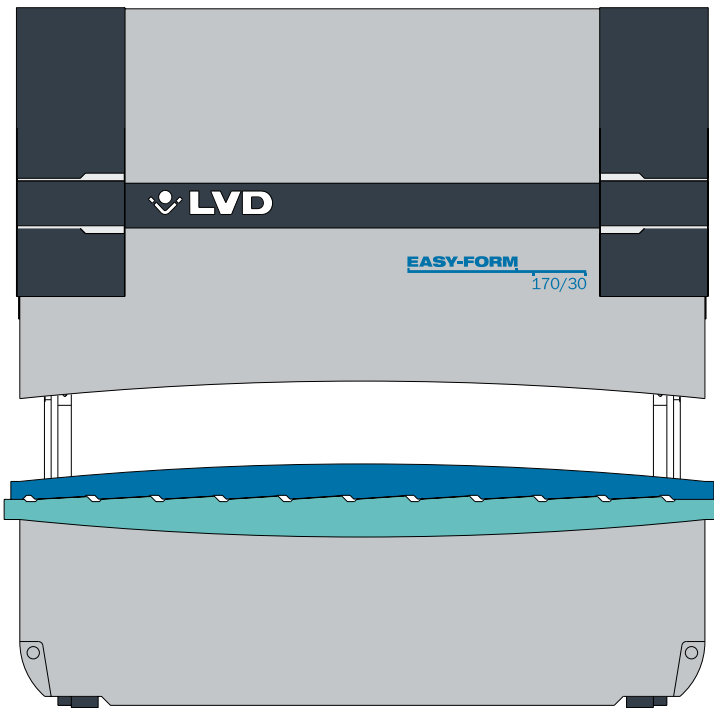
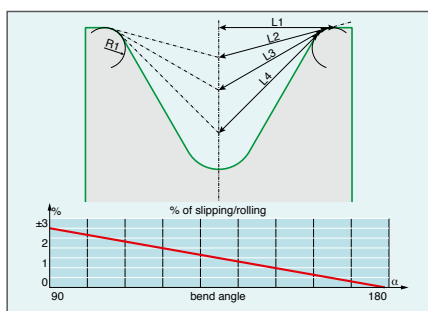


Fig. b

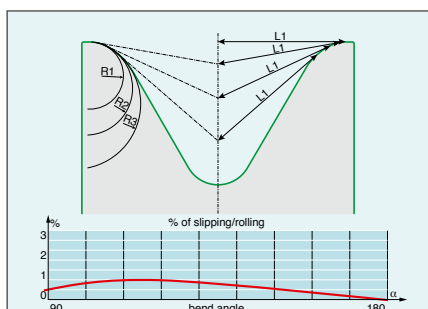
CNC CROWNING

Sheet thickness, bend length, die opening and tensile strength data are entered into the Touch-B control to determine the amount of crowning required to compensate for bed and ram deflection. LVD's proprietary design creates a perfect curve by using accurately machined contact wedges (Fig. b) that are moved against each other under servo control.

The crowning device is tailor-made for each individual machine. The associated components are machined and finished following the geometrical measurement between the ram and lower frame.



Normal radius



STONE radius

STONE RADIUS

All LVD dies feature a progressive STONE radius on both sides of the V opening that reduces friction between the material and the die to minimise part marking (Fig. c).

STONE tooling also provides:

- reduced tool wear
- tool interchangeability
- reduced residue
- improved material control
- reduced tonnage requirements
- symmetric bending, even on longer parts

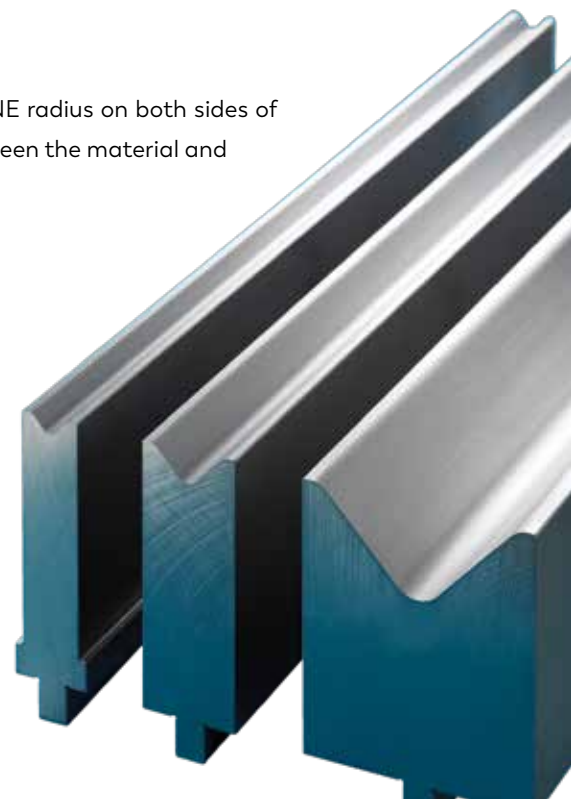


Fig. c

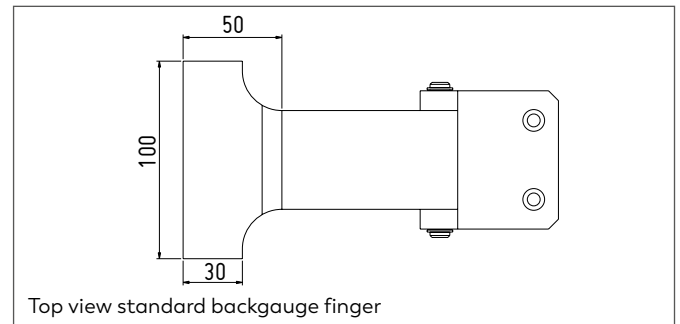
BACKGAUGE VERSATILITY

The backgauge ensures correct positioning of the workpiece in the machine, reducing overall cycle time and increasing productivity. LVD's backgauge systems offer the ultimate in flexibility in the production of both parallel and non-parallel flanges. The three-point gauge fingers allow automatic calculation and setting of both the backgauge and side stop positions for accurate part production.

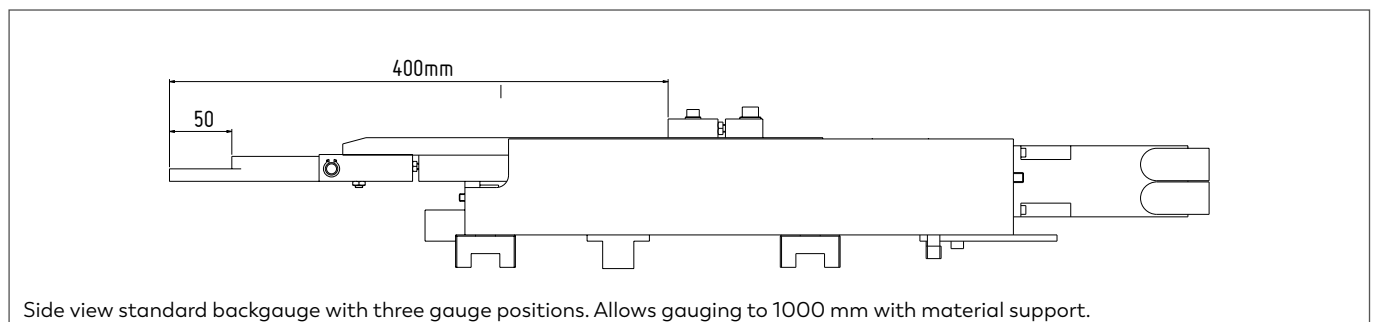
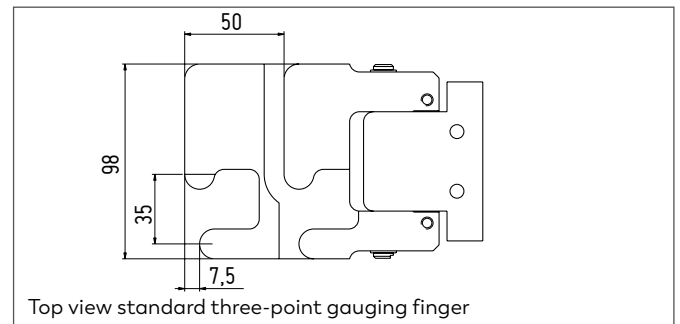
LVD's CADMAN® software enables feasibility checks prior to production. The database information is automatically used to achieve precise flange lengths the first time. You can determine the exact position of the backgauge, no modifications are necessary throughout production.

The range starts from a basic two-axis backgauge up to a full multiaxis system.

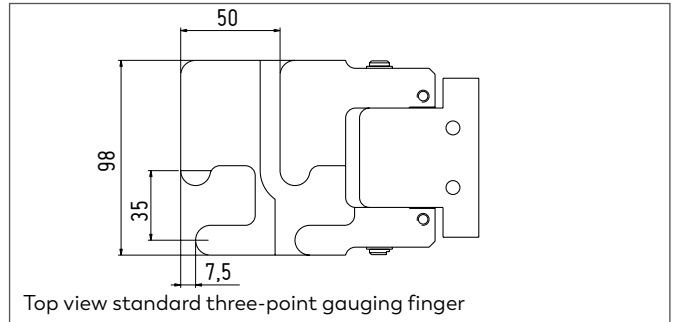
Standard two-axis backgauge (X, R) with manual Z-axis on Easy-Form 6



Five-axis backgauge (X, R, Z1, Z2, X') on Easy-Form 9

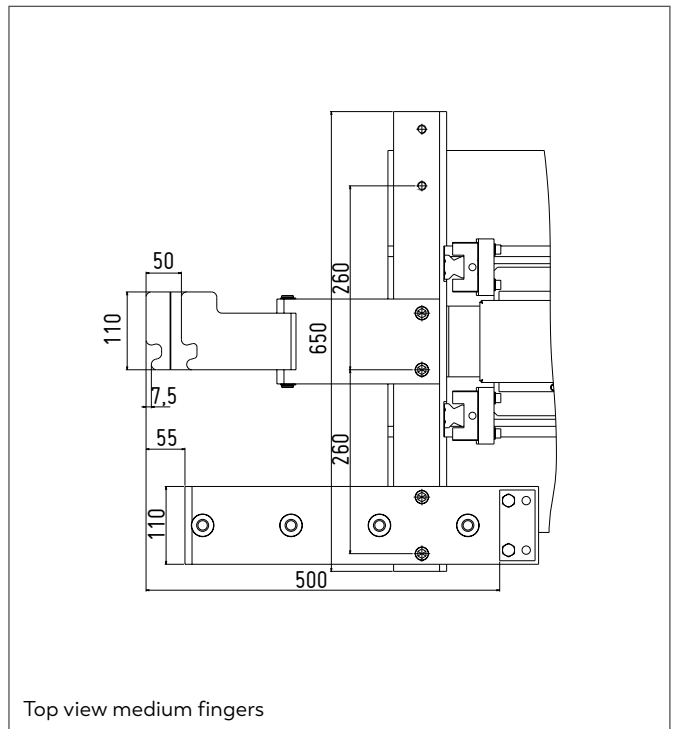


Six-axis modular backgauge (X1, R1, Z1, X2, R2, Z2) up to 400T on Easy-Form 9 (option)

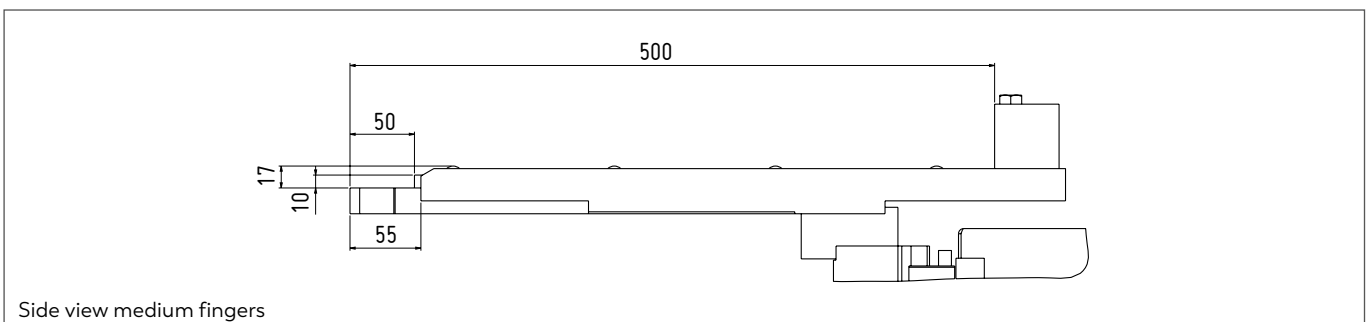


Top view standard three-point gauging finger

Six-axis modular backgauge (X1, R1, Z1, X2, R2, Z2) for 500T and 640T



Top view medium fingers



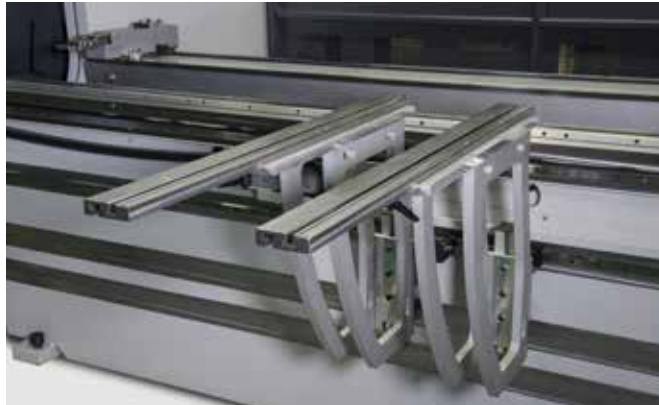
Side view medium fingers

CONFIGURE YOUR PRESS BRAKE

Front and back LED work zone lighting, a second foot pedal, a barcode reader to automatically load bending programs and an electrical cabinet air conditioner are included in the standard Easy-Form machine.

Maximising machine efficiency is the turbo hydraulic drive, a standard feature. This exclusive pump design regulates the flow rate to achieve optimal machine speed, avoiding unnecessary oil heating and energy waste. No energy is lost when the machine is holding the ram in position under pressure or when operating at low capacity.

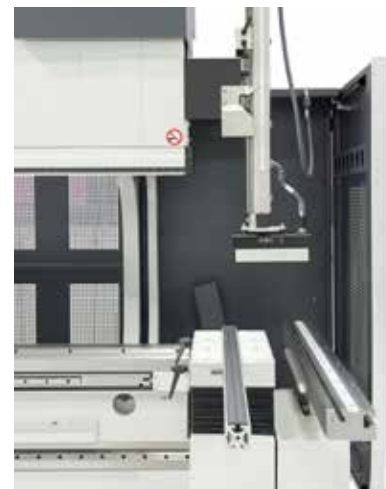
Numerous options are available to increase output on your press brake: quick-acting hydraulic clamping on ram and on table, hardened clamping, increased distance table-ram/stroke of the ram, increased gap, laser safety of the bending line, interface for robot connection, and more.



Front supports on guide rails allow quick positioning along the entire length



Two programmable sheet followers



A parking zone is standard left/right



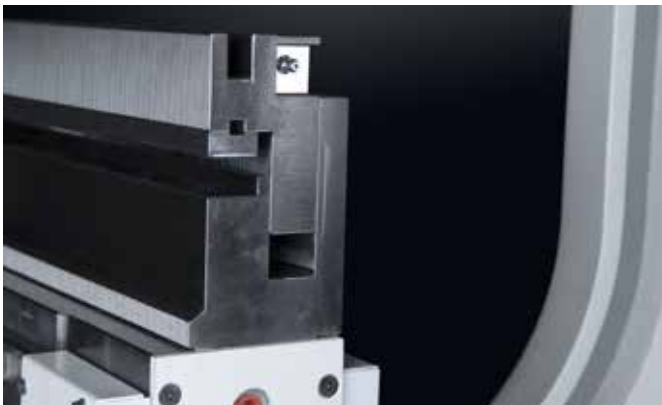
Increase the table-ram/stroke/gap distance in 100 mm steps



Additional backgauge finger for gauging long parts



Backgauge finger with electric contact for robotic bending



Hemming table



Lazersafe safety system



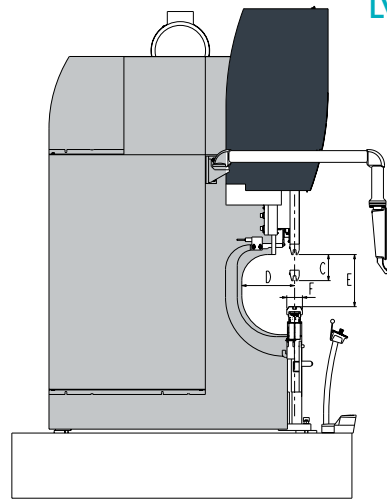
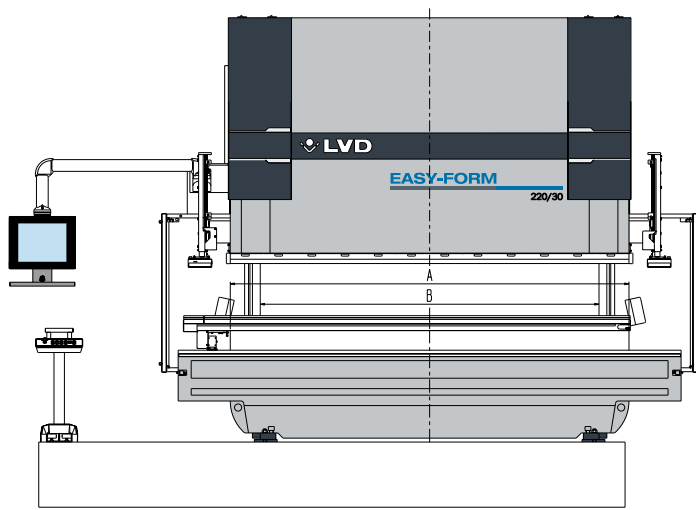
Tandem operation: synchronised operation of two machines with a single master CNC control or independent operation of each machine with separate control, available with dissimilar tonnage and lengths in tandem configuration.

TECHNICAL SPECIFICATIONS

Type		80/15	80/20	80/25	110/30	110/40	110/42	135/30	135/40	135/42
Pressing force	kN	800	800	800	1.100	1.100	1.100	1.350	1.350	1.350
Pressure	bar	290	290	290	245	245	245	290	290	290
Working length	A mm	1.500	2.000	2.500	3.050	4.000	4.270	3.050	4.000	4.270
Dist. betw. uprights	B mm	1.050	1.550	2.050	2.600	3.150	3.820	2.600	3.150	3.820
Stroke	C mm	200	200	200	200	200	200	200	200	200
Distance table-ram	E mm	400	400	400	400	400	400	400	400	400
Gap	D mm	400	400	400	400	400	400	400	400	400
Table width	F mm	120	120	120	120	120	120	120	120	120
Max. load table	kN/m	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Working height	mm	970	970	970	970	970	970	970	970	970
Approach speed*	mm/s	160	160	160	180	180	180	180	180	180
Working speed**	mm/s	22	22	22	22	22	22	22	22	22
Return speed	mm/s	200	200	200	200	200	200	200	200	200
Motor	kW	15	15	15	22	22	22	22	22	22
Weight	kg	5.500	6.000	6.500	9.500	11.000	12.000	9.500	11.000	12.000
Oil tank	L	125	125	125	250	250	250	250	250	250

Type		170/30	170/40	170/42	170/51	220/30	220/30 Plus	220/40	220/40 Plus	220/42
Pressing force	kN	1.700	1.700	1.700	1.700	2.200	2.200	2.200	2.200	2.200
Pressure	bar	285	285	285	285	285	285	285	285	285
Working length	A mm	3.050	4.000	4.270	5.100	3.050	3.050	4.000	4.000	4.270
Dist. betw. uprights	B mm	2.600	3.150	3.820	4.550	2.600	2.600	3.150	3.150	3.820
Stroke	C mm	200	200	200	200	200	300	200	300	200
Distance table-ram	E mm	400	400	400	400	400	570	400	570	400
Gap	D mm	400	400	400	400	400	400	400	400	400
Table width	F mm	120	120	120	120	120	200	120	200	120
Max. load table	kN/m	2.000	2.000	2.000	2.000	2.000	2.500	2.000	2.500	2.000
Working height	mm	970	970	970	1.020	970	1.000	970	1.000	970
Approach speed*	mm/s	180	180	180	180	120	120	120	120	120
Working speed**	mm/s	22	22	22	22	21	21	21	21	21
Return speed	mm/s	200	200	200	200	200	200	200	200	200
Motor	kW	37	37	37	37	37	37	37	37	37
Weight	kg	11.000	13.000	14.500	19.500	12.500	13.000	15.000	15.500	16.500
Oil tank	L	350	350	350	350	350	350	350	350	350

* For CE-countries only if the machine is equipped with an optional safety system. ** For CE-countries working speed is limited to safety norm.
Different combinations of stroke and daylight are available in our standard range by steps of +100 mm.
Specifications subject to change without prior notice.



Type		220/42 Plus	220/51	220/51 Plus	220/61	220/61 Plus	320/30	320/40	320/45	320/51	320/61
Pressing force	kN	2.200	2.200	2.200	2.200	2.200	3.200	3.200	3.200	3.200	3.200
Pressure	bar	285	285	285	285	285	285	285	285	285	285
Working length	A mm	4.270	5.100	5.100	6.100	6.100	3.050	4.000	4.500	5.100	6.100
Dist. betw. uprights	B mm	3.820	4.550	4.550	5.050	5.050	2.600	3.150	3.820	4.270	5.050
Stroke	C mm	300	200	300	200	300	300	300	300	300	300
Distance table-ram	E mm	570	400	570	400	570	570	570	570	570	570
Gap	D mm	400	400	400	400	400	400	400	400	400	400
Table width	F mm	200	120	200	120	200	200	200	200	200	200
Max. load table	kN/m	2.500	2.000	2.500	2.000	2.500	2.500	2.500	2.500	2.500	2.500
Working height	mm	1.000	1.025	1.055	1.025	1.055	1.000	1.000	1.000	1.035	1.165
Approach speed*	mm/s	120	120	120	120	120	120	120	120	120	120
Working speed**	mm/s	21	21	21	21	21	14	14	14	14	14
Return speed	mm/s	200	200	200	200	200	130	130	130	130	130
Motor	kW	37	37	37	37	37	37	37	37	37	37
Weight	kg	17.000	20.500	21.000	23.500	24.000	21.000	23.000	25.500	29.000	36.000
Oil tank	L	350	350	350	350	350	400	400	400	400	400

Type		400/40	400/45	400/51	400/61	500/40	500/45	500/51	500/61	640/45	640/61	640/80
Pressing force	kN	4.000	4.000	4.000	4.000	5.000	5.000	5.000	5.000	6.400	6.400	6.400
Pressure	bar	290	290	290	290	290	290	290	290	290	290	290
Working length	A mm	4.000	4.500	5.100	6.100	4.000	4.500	5.100	6.100	4.500	6.100	8.000
Dist. betw. uprights	B mm	3.150	3.820	4.270	5.050	3.150	3.760	4.050	5.050	3.760	5.050	7.050
Stroke	C mm	300	300	300	300	300	300	300	300	300	300	300
Distance table-ram	E mm	570	570	570	570	570	570	570	570	570	570	570
Gap	D mm	400	400	400	400	400	400	400	400	400	400	400
Table width	F mm	200	200	200	200	200	200	200	200	200	200	200
Max. load table	kN/m	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500
Working height	mm	970	970	970	970	970	970	970	970	970	970	970
Approach speed*	mm/s	100	100	100	100	100	100	100	100	90	90	90
Working speed**	mm/s	11	11	11	11	9	9	9	9	9	9	9
Return speed	mm/s	120	120	120	120	80	80	80	80	100	100	100
Motor	kW	37	37	37	37	37	37	37	37	55	55	55
Weight	kg	30.500	32.000	34.000	37.000	39.400	42.200	43.820	49.420	49.300	57.000	71.550
Oil tank	L	500	500	500	500	650	650	650	650	850	850	850

SOFTWARE INTEGRATION

CADMAN-FLOW

With CADMAN-FLOW, users can manage their production process and realise significant gains in productivity by linking their production steps. CADMAN-FLOW connects all CADMAN® software modules and is the single point of entry to the complete software suite. ERP and other systems access CADMAN-FLOW through one single interface (API).



CADMAN-SDI

The Smart Drawing Importer allows fast CAD file import per part, per batch or in watch mode in more than 40 file types and visualises all cost drivers, ready for export. CADMAN-SDI can automatically repair part geometry using BricsCAD®. The software also checks feasibility and estimates processing time.

CADMAN-B

CADMAN-B achieves the correct unfolding the first time and easily creates complex bending programs. The software determines the optimal bend sequence, tool and backgauge setup and optimises tool setup across different parts. It seamlessly links to CADMAN-L or P and calculates bending solutions per part, per batch or fully automatically in watch mode.

CADMAN-JOB

CADMAN-JOB examines every order in real time and filters and bundles orders for a minimised setup. The software connects the central database, ERP system, CAM and workshop. It generates, classifies and groups jobs for all sheet metal fabrication operations.

TOUCH-B CONTROL

The touch screen control provides an easy-to-use interface for all operators. It is connected with the centralised CADMAN database, is compatible with CADMAN-JOB and CADMAN-B and has access to LVD's helpdesk.

TOUCH-i4

This powerful tablet collects real-time information on the entire workshop and helps the operator sort and validate parts.

