

## HSL / HSLX



HSL / HSLX  
Hydraulic guillotine shears

# Hydraulics

The hydraulic guillotine shears of the HSL range are driven by top mounted cylinders. Our long experience in the production of hydraulic guillotine shears guarantees a product of exceptional design and great efficiency.

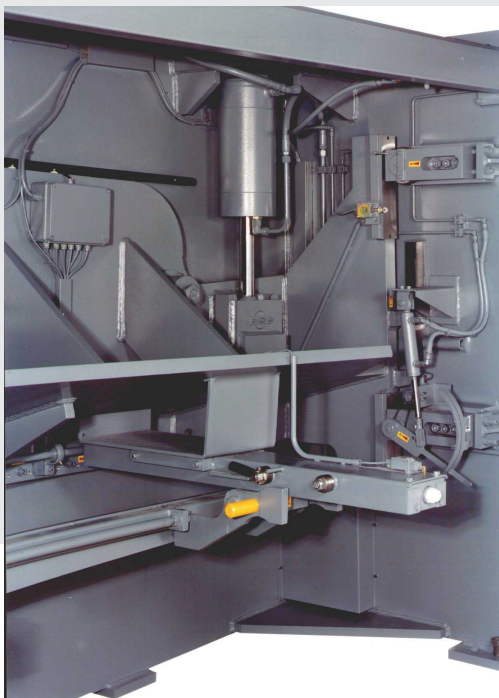
The fully open rear side provides the operator the possibility of easy removal or adapting different conveying and stacking systems to the machine.

The all-welded interlocked construction makes the machine virtually indestructible. The HSL shears are well equipped and have as standard the SP9 preselection control. In option, they can be equipped with the SC100T controller.

## HYDRAULICS

The hydraulic system consists of a motor pump group and a multifunction manifold block for the control of the machine, easy accessible located at the front of the machine under the table. The connections to the cylinders, the hold downs and pumps are by means of flexible hoses. Two high pressure relief valves protect the hold downs and the cutting cycle from overload. Oversized oil tank for trouble free high production shearing.

The parallelism control of the ram is based on the so-called differential principle. Guiding of the beam by roller bearings on hardened ways.

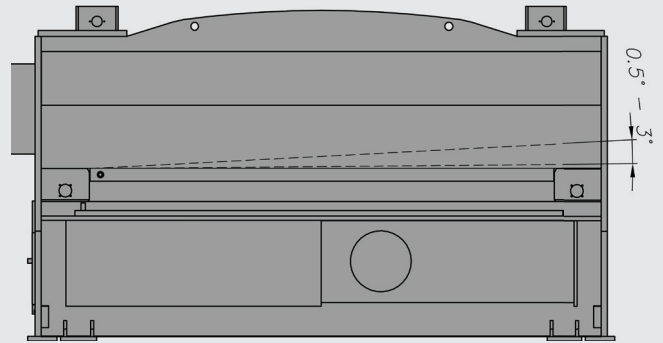


## HYDRAULIC HOLD DOWNS

The hydraulic hold downs work independently, which makes it possible to clamp plates of different lengths and thicknesses correctly. The hold downs operate independently from the shearing pressure. On the left and the right hand side of the machine the hold downs are arranged more closely to allow cutting small plates without any problems.



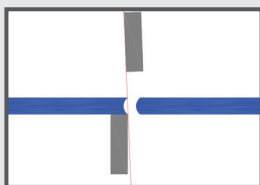
# Cutting angle/blade gap adjustment



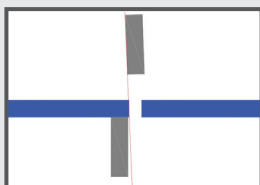
## CUTTING ANGLE ADJUSTMENT

Electro-hydraulic adjustment of the rake angle by pushbutton at the control panel, and digital read-out (HSL-type).

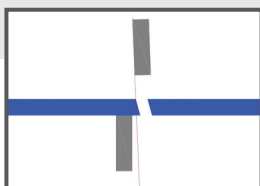
Automatic setting as a function of the plate thickness on the HSLX-type with SC100 T control. This allows to cut thin material at a lesser angle, minimizing deformation of the sheared plate.



*Too small*



*Correct*



*Too big*

## BLADE GAP ADJUSTMENT

Type HSL:  
Models 3006, 3606 and 3008: quick manual blade gap adjustment conveniently accessible from the front of the machine.

Other models: simple manual blade gap adjustment by means of levers at the rear of the machine.

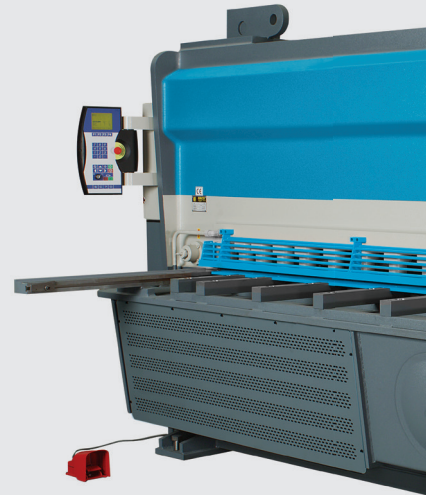
Type HSLX:  
The blade clearance is set automatically by means of two hydraulic cylinders, as a function of the entered sheet thickness and material type.



# Standard features

## STANDARD FEATURES OF HSL-RANGE

- Hydraulic motor-pump group arranged in front under the table of the machine, leaving the rear-side completely free for easy removal or mounting conveying/stacking systems to the machine.
- 2 Upper-driven push-down cylinders.
- All operator controls are conveniently located at the left-hand side of the machine in the immediate reach of the operator.
- The standard SP9 control offers the following functions : automatic positioning of the back gauge to the preselected position with digital read-out, stroke control and selection for back gauge retraction.
- Electro-hydraulic rake angle adjustment by means of pushbutton at the control panel.
- Quick manual blade gap adjustment.
- Tilting plate hold downs, pressure of which is independent from the shearing pressure, in order to clamp properly each sheet thickness. These hold downs are arranged more closely on the left and the right hand side to conveniently cut small plates.
- Hydraulic and electric overload protection.
- High shock resistant premium quality blades with 4 cutting edges on all other models.
- Motorised back gauge, positioned by the SP9 preselection control. Digital read-out of the position.
- Shearing table with a number of square iron blocks, easing the sheet feed-in and increasing drastically operator's safety.
- Squaring arm of 1000 mm with scale, T-slot and disappearing stop, attached to the left hand side of the machine.
- Movable foot pedal control.
- Instructions and maintenance manual.
- Non-filled oil tank (because of environmental regulations).
- Service tools.



## SC100 T CONTROL (OPTIONAL, = X MODEL)

HSL EXECUTED WITH THE OPTIONAL SC100 T CONTROL IS CALLED HSLX.

PROGRAMMING MODES :

Basic features of the SC100 T control :

- LCD display (5.7") and Touch Screen.
- Memory capacity :
  - max 500 programs with each max. 255 steps.
  - material list of max. 32 materials.
- Electro-hydraulic blade gap setting by means of 2 cylinders.
- Stroke control adjustment (cutting length).
- Automatic programmable retraction of the back gauge.
- Possibility of jog mode on back gauge.
- Backlash compensation, delayed sheet release.
- Mode selection Inch-Metric.
- Preset counter with 0-stop.
- USB interface.
- **Automatic :**  
By entering the sheet thickness, the control automatically sets the blade gap and the cutting angle as a function of the sheet thickness. All parameters can be manually modified according to the actual data.
- **Manual :**  
All cutting parameters such as material type, sheet thickness, cutting angle and blade gap can be programmed manually.



# Back gauges



## BACK GAUGES

The back gauge consists of 2 rigid arms (containing guidings and ball screws) and the parallel adjustable back gauge bar. This assembly assures a precise positioning of the sheet. Motorised positioning with the SP9 preselection control or programmable positioning with the



SC100 T control. Digital read-out of the actual and preselected or programmed position. In combination with SC100 T: swing-away back gauge enables cutting of sheets longer than the standard stroke length, driven on ball screws.

### Motorised back gauge (=MOT)

Lateral movement front to back.

Standard on all models.

Powered back gauge, stroke 750 mm - 1000 mm available as option for the 6 and 8 mm models.

Stroke 1000 mm for the 10, 13 and 16 mm models.

### Swing-Away back gauge (=SAB)

Powered back gauge, stroke 1000 mm.

Available as option on all HSL and HSLX models.

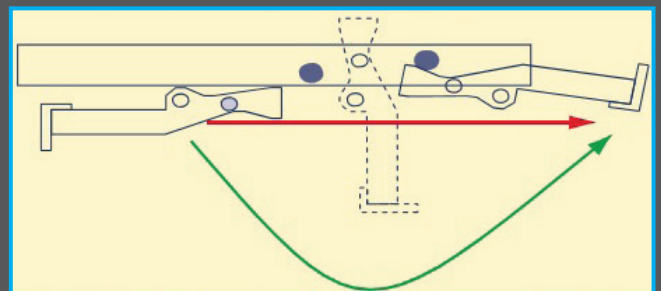
When removing the shafts in both carriers and running the backstop backwards, the complete carrier will swing away to the back, enabling to cut longer sheets.

### QUICK AN EASY:

The SC100 T fits all requirements for sheet cutting operations that require the highest accuracy and minimum time-loss.

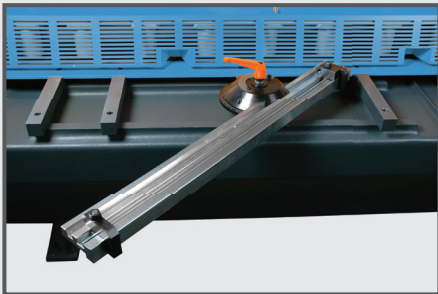
Creating a program requires only a few actions. The program parameters include: back gauge position, cutting time, sheet thickness, blade angle & blade gap setting. The blade gap adjustment is done electro-hydraulically.

No specific training is required to work with this control!

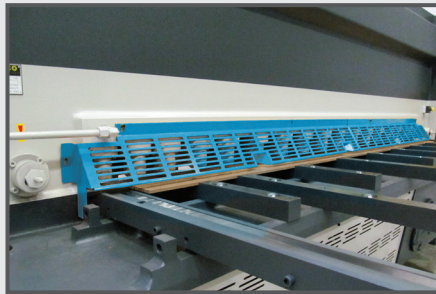


# Optional Equipment

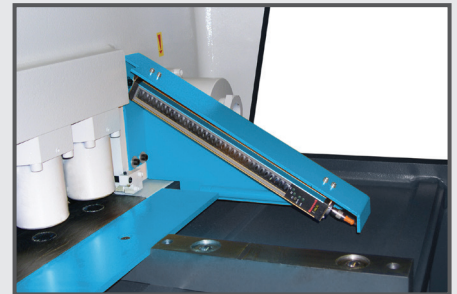
- SC100 T control unit. (X model)
- Squaring arms and front support arms.
- Ball transfers in the iron table blocks.
- Protractor for angle shearing.
- Blades for cutting stainless steel.
- Hand Safety Guard with hand gaps and safety light curtain guards.
- Different back gauge types.
- Hydraulic sheet support system for cutting of thin materials.
- Different conveying and stacking systems with integrated sheet support arms and scrap container.
- Safety fences and light beams at the rear side of the machine. (standard for countries requiring the CE safety specifications)



PROTRACTOR for angle shearing.



SQUARING ARMS AND FRONT SUPPORT ARMS with or without scale, T-slots and flip over stop. Lengths respectively from 1000 up to 6000 mm and from 500 to 3000 mm.



SAFETY LIGHT CURTAIN GUARDS in front of the hold-downs. BALL TRANSFERS mounted in the iron table blocks, for easy feed-in of the sheets.

A specific feature of the HSL/HSLX range is the complete free rear space between the frames, so the machine can be executed with different sheet support, conveying and stacking systems to improve production output.

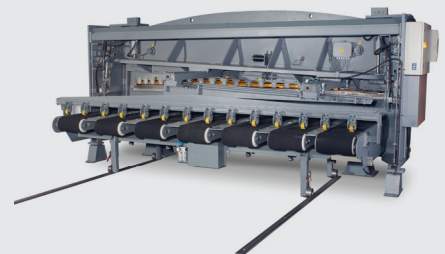
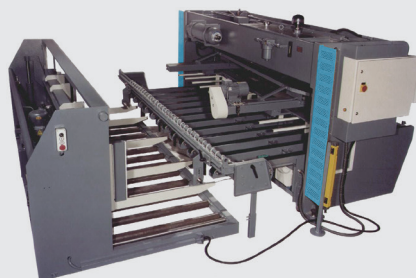
**HYDRAULIC SHEET SUPPORT SYSTEM** which follows the movement of the beam. Principally for thinner sheets, it assures the perfect gauging while entering the sheet into the machine. During the cutting action the sheet remains supported in order to avoid damage and deformation. When the cutting action is finished the plate slides down smoothly. The system can be switched off, e.g. for cutting thicker plates.

- **Expandable with SBS**  
(Sheet Back to Sender feature)



**PNEUMATIC SHEET SUPPORT SYSTEM**, scrap chute and scrap container, counter rolls, alignment cylinders and stacker with automatic adjustable arms.

The pneumatic sheet support arms hold the thin sheets for perfect gauging. A strip of scrap can be cut and removed when starting a series of cuts with a new sheet. The conveyor transports the plate to the stacker. A counter roll prevents scratching of the previously stacked sheets. The stacker arms lower automatically during stacking action.

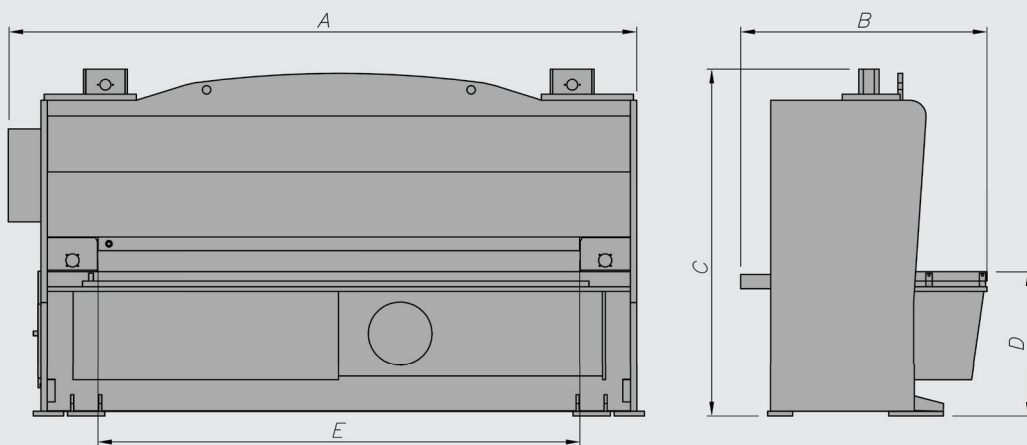


HEAVY DUTY CONVEYOR and sheet support system.

# Technical specifications HSL / HSLX - range

	Capacity mild steel (400N/mm <sup>2</sup> ) mm	Cutting length E mm	Cutting Angle Adjustment degrees	Number of plate hold downs	Number of strokes / min at max. – min angle	Stroke back gauge MOT version mm	Stroke back gauge SAB version (optional) mm	Working height D mm	Motor power kW	Length A mm	Width (without CE safety fences) B mm	Width (including CE Safety fences) mm	Height C mm	Approximate weight Tons
3006	6,5	3050	0.5-3	18	11-22	750/1000	1000	770	11	3950	1750	3070	1720	5
3008	8	3050	0.5-3	18	10-23	750/1000	1000	770	15	4050	1800	3120	1850	5.5
3010	10	3050	0.5-3	18	10-18	1000	1000	930	18,7	4270	2150	3470	2250	8.3
3013	13	3050	0.5-3	18	9-17	1000	1000	930	22	4270	2200	3720	2250	9.5
3016	16	3050	0.5-3	18	5-10	1000	1000	1000	30	4800	2220	3740	2550	14
4006	6,5	4050	0.5-3	23	6-11	750/1000	1000	880	11	5100	1850	3170	2000	7.5
4008	8	4050	0.5-3	23	6-11	750/1000	1000	880	15	5150	1880	3200	2020	10
4010	10	4050	0.5-3	23	7-11	1000	1000	1040	18,7	5250	2180	3500	2390	13
4013	13	4050	0.5-3	23	7-11	1000	1000	1040	22	5700	2200	3720	2390	13.5
4016	16	4050	0.5-3	23	4-9	1000	1000	1040	30	5700	2220	3740	2800	20

HACO reserves the right to change any specifications without prior notice.





CNC Press Brakes



CNC Punching Machines



Plasma Cutting Machines

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