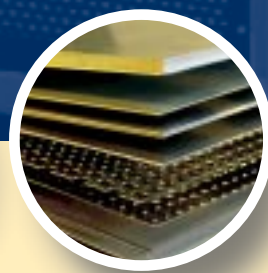


# Hydraulic guillotine shears



Type  
**HSL**  
**HSLX**

for impressive  
performances



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 back provides the operator the possibility of easy removal or adapting different conveying and stacking systems to the machines.

The all-welded interlocked construction makes the machine virtually indestructible.

The HSL shears are delivered well equipped and have as standard the SP8 Preselection-control. In option, they can be equipped with the SC 70 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.

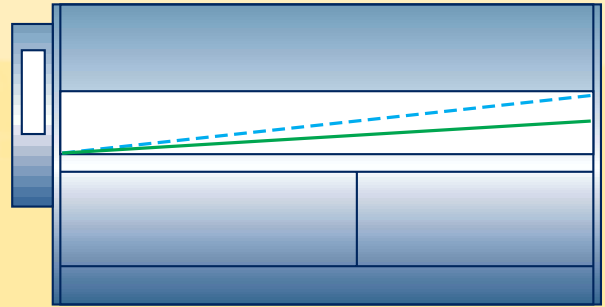
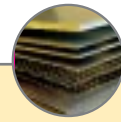
Oversized oil tank for trouble free high production shearing.

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 HOLDDOWNS

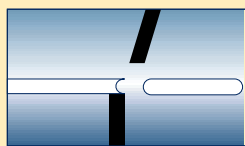
The hydraulic hold-downs work independently, which makes it possible to clamp plates of different lengths and thicknesses correctly. The hold-downs operate independently from the shearing pressure. On the left and the right hand side of the machine the hold-downs are arranged more closely to allow cutting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





### CUTTING ANGLE ADJUSTMENT

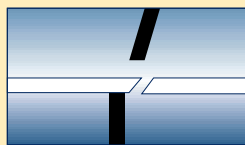
Electro-hydraulic adjustment of the rake angle by push buttons at the control panel, and digital read-out (HSL-type). Automatic as a function of the plate-thickness on the HSLX-type with SC70 control. This allows to cut thin material at a less angle, minimizing deformity of the sheared stock.



Too small



Correct



Too big

### BLADE GAP ADJUSTMENT

The knife clearance is manually set by easy accessible levers (on each side) at the rear of the HSL machine.

On the HSLX- models, this is automatically by two hydraulic cylinders, as a function of the entered sheet thickness



## STANDARD FEATURES OF HSL- RANGE :

- Hydraulic motor-pump group arranged in front under the table of the machine, leaving the black-side completely free for easy removal or mounting conveying or 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 SP8 control offers the following functions : automatic positioning of the backgauge to the preselected position with digital read-out, stroke control and selection for backgauge retraction.
  - Electro-hydraulic rake angle adjustment by push-buttons in the control panel.
  - Quick manual blade gap setting by easy accessible levers at the rear of the machine.
  - 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 sheets.
  - 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 SP8 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 1000mm with scale, T-slot and disappearing stop, attached to the left side of the machine.
- Movable foot pedal control.
- Instructions and maintenance manual.
- Filled oil tank.
- Service tools



## SC 70 CONTROL (optional)

**HSL executed with the optional SC70 control is called HSLX.**

Basic features of the SC70 control :

- Monochrome LCD screen.
- Memory capacity :
  - max 200 programs with max. 400 steps
  - Max 127 steps per program.
  - Material list of max. 32 materials
- Each program contains the basic cutting parameters such as material type, material thickness, blade gap and cutting angle setting
- Electro-hydraulic blade gap setting by 2 cylinders.
- Stroke control adjustment (cutting length).
- Automatic programmable retraction of the back gauge.
- Possibility of jog mode on backgauge.
- Backlash compensation, delayed sheet release.
- Mode selection Inch-Metric.
- (preset) Counter with 0-stop.

### Programming modes :

- Automatic :

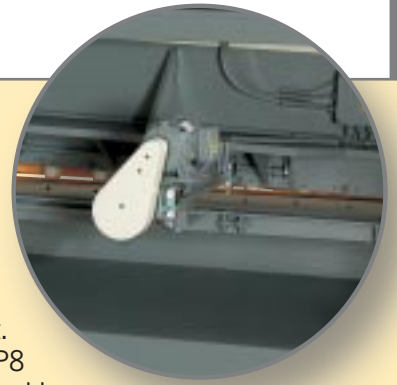
By entering the sheet thickness f automatically sets the blade gap as a function of the sheet thickness. All parameters can be manually modified according to the actual
- Manual :

All cutting parameters such as material type, sheet thickness, cutting angle and blade gap are programmed manually.



## BACKGAUGES

The backgauge consists of 2 rigid arms (containing guidings and control spindle) and the parallel adjustable backgauge bar. This assembly assures a precise positioning of the sheet. Motorised positioning with the SP8 preselection control or programmable positioning with the SC70 control. Digital read-out of the actual and preselected or programmed position. In combination with SC70: Swing-up and Swing-away types enable cutting of sheets longer than the standard stroke length, DC driven on ballscrews.

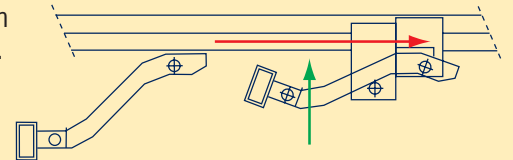


### MOTORISED BACKGAUGE

Lateral movement front to back.  
 Standard on all models  
 Power backgauge stroke 750mm on 6 and 8mm models.  
 Expandable in option to 1000mm  
 On 10, 13 and 16mm models: stroke 1000 mm.

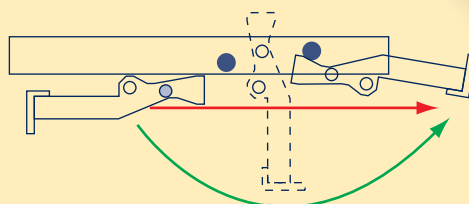
### SWING-UP BACKGAUGE

Power backgauge stroke 820mm.  
 Available as option on 3m, 6 and 8mm models  
 When the backstop runs backwards, it will mechanically lift up to cut longer sheets.  
 Also expandable to 1000mm stroke with lifting up feature.



### SWING-AWAY BACKGAUGE

Power backgauge stroke 1000mm.  
 Available as option on 4m- 6 and 8mm, all 10, 13, 16mm models  
 When removing the axis in both carriers and run the backstop backwards, the complete carrier will swing away to the back, enabling to cut longer sheets.



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# OPTIONAL EQUIPMENT

- SC70 control unit
- Squaring arms and front support arms.
- Ball transfers in the iron table blocks.
- Protractor for angle shearing.
- Knives for cutting inox.
- Hand Safety Guard with hand gaps.
- Different backgauge types.
- Pneumatic sheet hold-up system for cutting of thin materials.
- Different conveying and stacking systems with integrated sheet hold-up arms and scrap container.
- Safety fences and light beams at the backside of the machine (standard for countries requiring the CE safety specifications)

**PROTRACTOR** for angle shearing.



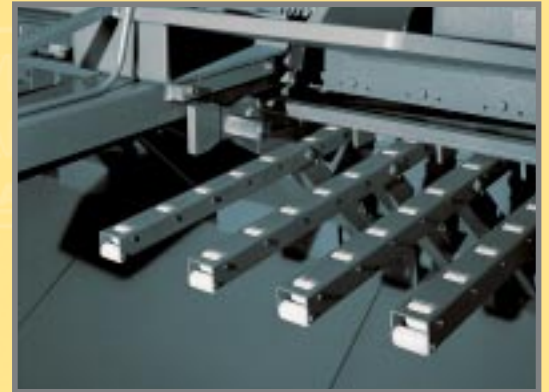
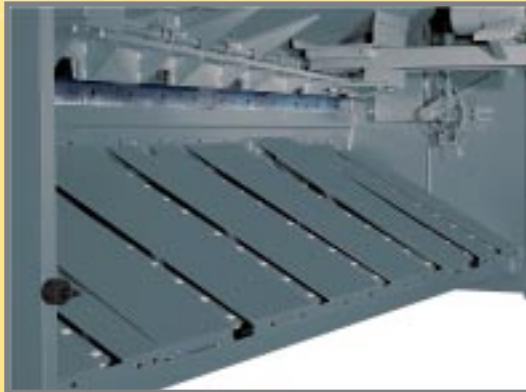
**SQUARING ARMS AND FRONT SUPPORT ARMS** with or without scale, T-slots and flip-over stop. Lengths from 1000 up to 3000mm.



**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 hold-up, conveying and stacking systems to improve production time.**

**PNEUMATIC SHEET HOLD-UP SYSTEM** for sheet thickness up to 4mm, assuring the perfect gauging while entering the sheet into the machine. During the cutting action and when not in use, the arms rest under a cover, thus avoiding damaging the arms itself when cutting heavier material.



Pneumatic sheet hold-up system, scrap chute and scrap container, counter rolls, alignment cylinders and stacker with automatic adjustable arms.

The pneumatic sheet hold-up 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.



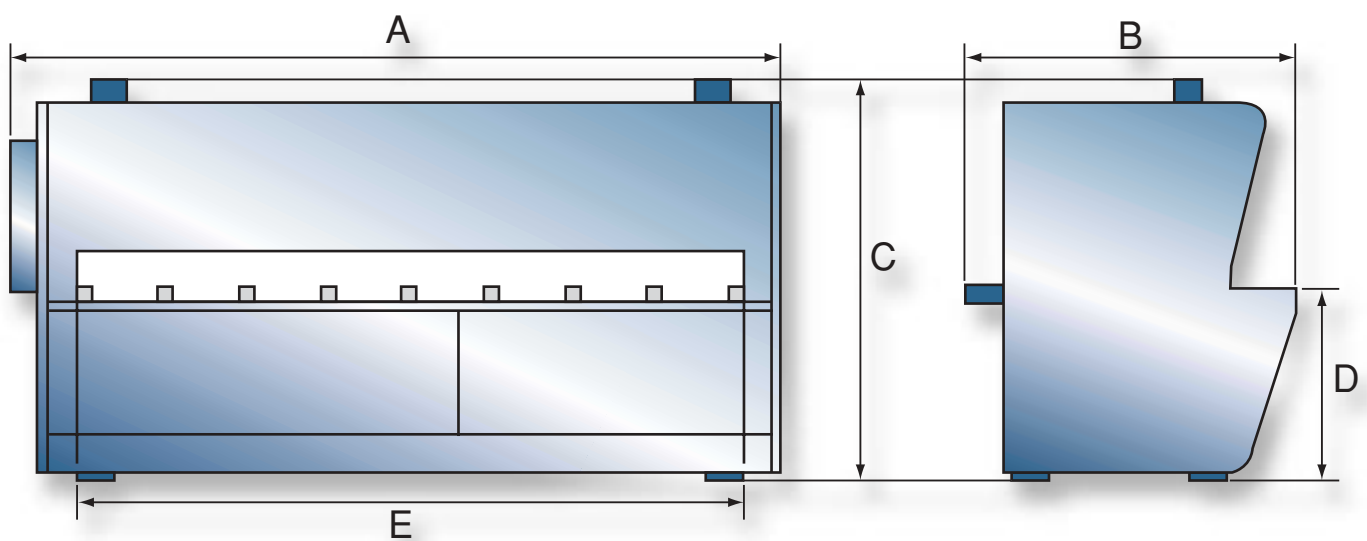
**HEAVY DUTY CONVEYOR** and sheet hold-up system



# TECHNICAL DATA HSL-range

	Capacity mild steel (400N/mm <sup>2</sup> ) mm	Cutting length E mm	Angle Adjustment degrees	Number of plate holddowns	Number of strokes / min at max - min. angle.	Stroke Backgauge MOT version mm	Stroke Backgauge SUB version (opt.) mm	Stroke Backgauge SAB version (opt.) mm	Working height D mm	Motor Power kW	Length A mm	Width (without CE Safety fences)* B mm	Width (including CE Safety fences)* B mm	Height C mm	Approx Weight Tons
<b>3006</b>	6,5	3050	0,5 - 3	18	11-22	750	820	-	770	11	3950	1750	3070	1720	5
<b>3008</b>	8	3050	0,5 - 3	18	10-23	750	820	-	770	15	4050	1800	3120	1850	5,5
<b>3010</b>	10	3050	0,5 - 3	18	10-18	1000	-	1000	930	18,7	4270	2150	3470	2250	8,3
<b>3013</b>	13	3050	0,5 - 3	18	9-17	1000	-	1000	930	22	4270	2200	3720	2250	9,5
<b>3016</b>	16	3050	0,5 - 3	18	5-10	1000	-	1000	1000	30	4800	2220	3740	2550	14
<b>4006</b>	6,5	4050	0,5 - 3	23	6-11	750	-	1000	880	11	5100	1850	3170	2000	7,5
<b>4008</b>	8	4050	0,5 - 3	23	6-11	750	-	1000	880	15	5150	1880	3200	2020	10
<b>4010</b>	10	4050	0,5 - 3	23	7-11	1000	-	1000	1040	18,7	5250	2180	3500	2390	13
<b>4013</b>	13	4050	0,5 - 3	23	7-11	1000	-	1000	1040	22	5700	2200	3720	2390	13,5
<b>4016</b>	16	4050	0,5 - 3	23	4-9	1000	-	1000	1000	30	5700	2220	3740	2800	20

\* with backgauge MOT version  
HACO reserves the right to change any specifications without prior notice.





for impressive performances

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# COMPLETE SHEET METAL WORKING PROGRAM



## HYDRAULIC PRESSBRAKES

Conventional and CNC controlled.  
Conventional up to 3000kN.  
CNC controlled up to 10.000kN.



## CNC PUNCHING MACHINES

Full CNC controlled punching machines with indexable tooling according to type with single punching head and optional manual tool change turret or with automatic tool change turret for up to 20 different tools.  
Capacity of 22 and 30 tons.



## ANGLE NOTCHERS

Fixed and variable angle.  
Up to 6mm

## HYDRAULIC STEELWORKERS

4 and 5 station universal steelworkers for punching, shearing flat, angle and bar cutting, notching.  
Up to 1600 kN

