HSL / HSLX

Hydraulic guillotine shears

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The hydraulic guillotine shears of the HSL range are driven by top mounted cylinders. Our long experience in the production of hydraulic guillotines 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 ADJUSTMENT**

Electro-hydraulic adjustment of the rake angle by push buttons at the control panel, and digital read-out (HSL-type). Automatic setting as a function of the plate thickness on the HSLX-type with SC100T control. This allows to cut thin material at a lesser angle, minimizing deformation of the sheared plate.

**BLADE GAP ADJUSTMENT**

The blade clearance is manually set by easy accessible levers (on each side) at the rear of the machine. On the HSLX-models, setting is automatically by means of two hydraulic cylinders, as a function of the entered sheet thickness and material type.
Standard features

- 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 pushbuttons 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 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, easying 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 hand side of the machine.
- Movable foot pedal control.
- Instructions and maintenance manual.
- Non-filled oil tank (because of environmental regulations).

STANDARD FEATURES OF HSL-RANGE

back gauges

The back gauge consists of 2 rigid arms (containing guidings and control spindle) and the parallel adjustable back gauge bar. This assembly ensures a precise positioning of the sheet. Motorised positioning with the SP9 preselection control or programmable positioning with the SC100T control. Digital read-out of the actual and preselected or programmed position. In combination with SC100T. Swing-away back gauge enables cutting of sheets longer than the standard stroke length, DC driven on ball screws.

Motorised back gauge

Lateral movement front to back. Standard on all models. Powered back gauge, stroke 750 mm. Optionally expandable to 1000 mm.

Swing-Away back gauge

Powered back gauge, stroke 750 or 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.

SC100T CONTROL (OPTIONAL, = X MODEL)

Quick an easy:

The SC100 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 electrohydraulically.

No specific training is required to work with this control!
Optional Equipment

- SC100T control unit. (X model)
- Squaring arms and front support arms.
- Ball transfers in the iron table blocks.
- Protractor for angle shearing.
- Blades for cutting inox.
- 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.

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.

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

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.

Technical specifications HSL / HSLX - range

<table>
<thead>
<tr>
<th>Capacity mild steel (400N/mm²) mm</th>
<th>Cutting length</th>
<th>Cutting Angle Adjustment</th>
<th>Number of plate hold downs</th>
<th>Stroke Back gauge MOT version</th>
<th>Stroke Back gauge SAB version (opt.)</th>
<th>Working Height</th>
<th>Motor Power</th>
<th>Length</th>
<th>Width (including CE Safety fences)</th>
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HACO reserves the right to change any specifications without prior notice.

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CNC Punching Machines
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