

## HSL / HSLX / HSLX-HD



HSL / HSLX / HSLX-HD  
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

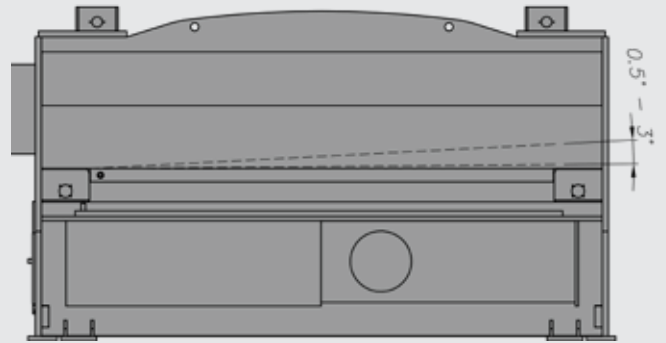
The hydraulic hold downs work independently, which makes it possible to clamp plates of different lengths and thicknesses correctly. The hold downs operate independently from the shearing pressure. On the left and the right hand side of the machine the hold downs are arranged more closely to allow cutting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



# Cutting angle/blade gap adjustment



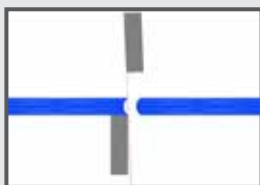
Model HSLX 10 x 1/4



## CUTTING ANGLE ADJUSTMENT

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

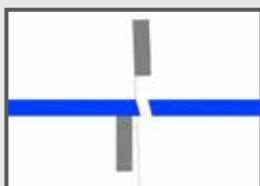
Automatic setting as a function of the plate thickness on the HSLX-type with SC100 T control. This allows to cut thin material at a lesser angle, minimizing deformation of the sheared plate.



Too small



Correct



Too big

## BLADE GAP ADJUSTMENT

Type HSL:

Models 10 x 1/4, 12 x 1/4 and 10 x 5/16: 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 appropriate for cutting stainless steel, with 4 cutting edges.
  - 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 40" 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.





Model HSLX 10 x 1/2

## 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 29,5" - 40" available as option for the 1/4 and 5/16" models.

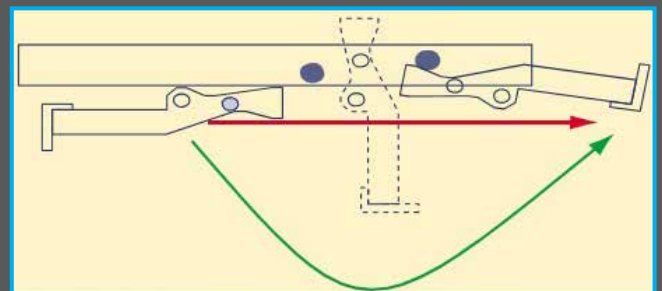
Stroke 40" for the 3/8, 1/2 and 5/8" models.

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

Powered back gauge, stroke 40".

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 AND 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

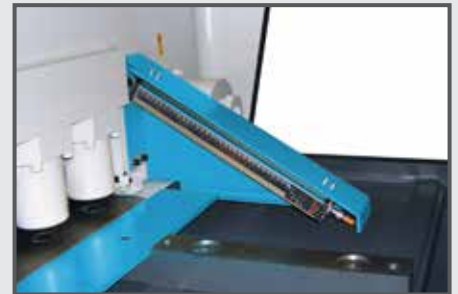
- SC100 T control unit. (X model)
- Squaring arms and front support arms.
- Ball transfers in the iron table blocks.
- Protractor for angle shearing.
- Hand Safety Guard with hand gaps and safety light curtain guards.
- Different back gauge types.
- Hydraulic sheet support system for cutting of thin 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 40" up to 120" and from 20" to 120".



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.



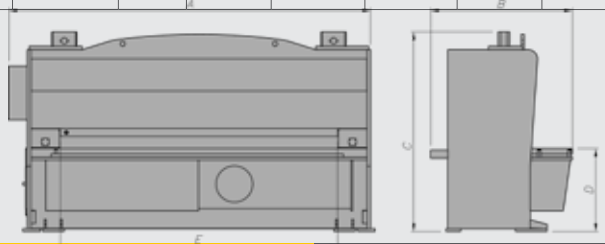
HEAVY DUTY CONVEYOR and sheet support system.

# Technical specifications HSL / HSLX range

(up to 14 x 5/8" cutting length and from 1/4 to 5/8" capacity)

	Capacity mild steel (400N/mm2)	inch	E inch	degrees		inch	inch	D inch	HP	A inch	B inch	inch	C inch	Lbs
	Cutting length	Cutting angle adjustment	Number of plate hold downs	Number of strokes / min at max. – min angle	Stroke back gauge MOT version	Stroke back gauge SAB version (optional)	Working height	Motor power	Length	Width (without CE safety fences)	Width (including CE Safety fences)	Height	Approximate weight	
6 x 1/4	1/4	80	0.5-3	13	13-24	29.5/40	40	30	15	111	77	106	76	11000
6 x 5/16	5/16	80	0.5-3	13	12-25	29.5/40	40	30	20	111	76	106	72	12100
6 x 3/8	3/8	80	0.5-3	13	12-20	40	40	37	25	124	79	107	90	14960
6 x 1/2	1/2	80	0.5-3	13	11-19	40	40	37	30	124	79	107	90	17600
6 x 5/8	5/8	80	0.5-3	13	7-12	40	40	39	40	126	87	121	101	26400
10 x 1/4	1/4	122	0.5-3	18	11-22	29.5/40	40	30	15	152	77	106	76	14300
10 x 5/16	5/16	122	0.5-3	18	10-23	29.5/40	40	30	20	152	76	106	72	15400
10 x 3/8	3/8	122	0.5-3	18	10-18	40	40	37	25	165	79	107	90	18260
10 x 1/2	1/2	122	0.5-3	18	9-17	40	40	37	30	165	79	107	90	20900
10 x 5/8	5/8	122	0.5-3	18	5-10	40	40	39	40	168	87	121	101	30800
12 x 1/4	1/4	147	0.5-3	21	6-11	29.5/40	40	32	15	178	77	103	81	17600
12 x 5/16	5/16	147	0.5-3	21	6-11	29.5/40	40	33	20	183	76	104	81	19800
12 x 3/8	3/8	147	0.5-3	21	7-11	40	40	40	25	187	80	114	94	25300
12 x 1/2	1/2	147	0.5-3	21	7-11	40	40	40	30	187	82	114	94	26400
12 x 5/8	5/8	147	0.5-3	21	4-9	40	40	39	40	194	85	129	108	35200
13 x 1/4	1/4	157	0.5-3	23	6-11	29.5/40	40	32	15	199	80	106	79	20900
13 x 5/16	5/16	157	0.5-3	23	6-11	29.5/40	40	33	20	199	80	106	83	22000
13 x 3/8	3/8	157	0.5-3	23	7-11	40	40	40	25	203	81	114	94	28600
13 x 1/2	1/2	157	0.5-3	23	7-11	40	40	40	30	203	81	114	94	29700
13 x 5/8	5/8	157	0.5-3	23	4-9	40	40	39	40	208	87	129	118	44000
14 x 1/4	1/4	172	0.5-3	25	6-10	29.5/40	40	32	15	211	80	107	84	25300
14 x 5/16	5/16	172	0.5-3	25	6-10	29.5/40	40	32	20	211	80	107	88	26400
14 x 3/8	3/8	172	0.5-3	25	6-10	40	40	41	25	217	83	118	99	31900
14 x 1/2	1/2	172	0.5-3	25	6-9	40	40	41	30	217	83	118	99	34100
14 x 5/8	5/8	172	0.5-3	25	4-8	40	40	39	40	222	89	133	114	48400

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



# HSLX-HD range 1

Cutting length 16' and 20' and capacity 1/4" up to 5/8".



Model HSLX-HD 20 x 1/2 with optional support arms

## Standard features of HSLX-HD range 1

Features such as the HSL models with SC100 T control = HSLX range (see page 4).

Except specific features for the HSLX-HD range 1:

- Sturdy heavy-duty frame with all steel welded interlocked construction.
- Overlying oil tank stably bolted between the side frame housings.
- Fast beam return assisted by nitrogen cylinder.
- Motorised (= MOT) back gauge 40" stroke on ball circulating screws.
- Shearing table consisting of square iron blocks.

*Optional equipment such as the HSLX models (see page 6)  
or in specific HSLX-HD execution.*



SC100 T control



# Technical specifications HSLX-HD range 1

	Capacity mild steel (400N/mm <sup>2</sup> ) inch	Cutting length E inch	Cutting angle adjustment degrees	Number of plate hold downs	Number of strokes / min at max. – min angle	Stroke back gauge MOT version inch	Stroke back gauge SAB version (optional) inch	Working height D inch	Motor power HP	Length A inch	Width (without CE safety fences) B inch	Width (including CE Safety fences) inch	Height C inch	Approximate weight Lbs
16 x 1/4	1/4	200	0.5-3	28	6-12	40	40	41	15	83	122	102	768	48900
16 x 5/16	5/16	200	0.5-3	28	5-10	40	40	41	20	84	123	102	827	46200
16 x 3/8	3/8	200	0.5-3	28	5-10	40	40	41	25	87	126	105	945	52800
16 x 1/2	1/2	200	0.5-3	28	5-10	40	40	41	30	87	126	105	1043	58300
16 x 5/8	5/8	200	0.5-3	28	4-8	40	40	41	60	89	128	106	1417	79200
20 x 1/4	1/4	244	0.5-3	33	5-10	40	40	41	15	83	122	103	972	54340
20 x 5/16	5/16	244	0.5-3	33	4-8	40	40	44	20	84	123	112	1024	57200
20 x 3/8	3/8	244	0.5-3	33	4-8	40	40	46	25	87	126	117	1299	72600
20 x 1/2	1/2	244	0.5-3	33	4-8	40	40	46	30	87	126	117	1417	79200
20 x 5/8	5/8	244	0.5-3	33	3-6	40	40	47	60	98	138	117	1850	103400

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Optional hydraulic sheet support system (features: see page 6)

# HSLX-HD range 2

Cutting length 6' up to 20' and capacity 3/4 - 1 - 1 1/4 inch



Model HSLX-HD 10 x 3/4

## Standard features of HSLX-HD range 2

Features such as the HSLX-HD models range 1 (see page 8).  
Except specific features for the HSLX-HD range 2:

- Motorised (= MOT) heavy-duty back gauge 50" stroke on ball circulating screws.

*Optional equipment such as the HSLX models (see page 6)  
or in specific HSLX-HD execution.*



Model HSLX-HD 8 x 1 1/4



*Optional 'heavy duty'  
hydraulic swing-up  
(= HDSUB) back gauge  
stroke 50".*



# Technical specifications HSLX-HD range 2

	Capacity mild steel (400N/mm2) inch	Cutting length E inch	Cutting angle adjustment degrees	Number of plate hold downs	Number of strokes / min at max. – min angle	Stroke back gauge MOT version inch	Stroke back gauge HDSUB version (optional) inch	Working height D inch	Motor power HP	Length A inch	Width (without CE safety fences) B inch	Width (including CE Safety fences) inch	Height C inch	Approximate weight Lbs
6 x 3/4	3/4	80	0.5-3	13	8-14	50	50	39	75	114	97	136	102	44000
6 x 1	1	80	0.5-3	13	6-10	50	50	41	75	122	102	142	104	52800
6 x 1 1/4	1 1/4	80	0.5-3.5	13	5-8	50	50	41	75	126	108	148	114	68200
10 x 3/4	3/4	122	0.5-3	18	6-12	50	50	41	75	161	97	136	104	57200
10 x 1	1	122	0.5-3	18	4-8	50	50	41	75	165	102	142	104	83600
10 x 1 1/4	1 1/4	122	0.5-3	18	3-6	50	50	52	75	179	108	148	114	105600
12 x 3/4	3/4	147	0.5-3	21	5-10	50	50	41	75	185	97	136	106	68200
12 x 1	1	147	0.5-3	21	4-8	50	50	43	75	189	102	142	118	96800
12 x 1 1/4	1 1/4	147	0.5-3.5	21	3-6	50	50	52	75	197	108	148	118	114400
13 x 3/4	3/4	157	0.5-3	23	5-10	50	50	41	75	201	98	138	110	74800
13 x 1	1	157	0.5-3	23	4-7	50	50	43	75	209	102	142	126	105600
13 x 1 1/4	1 1/4	157	0.5-4	23	3-5	50	50	52	75	219	118	157	126	123200
14 x 3/4	3/4	172	0.5-3	25	4-9	50	50	41	75	213	98	138	118	81400
14 x 1	1	172	0.5-3	25	3-7	50	50	43	75	220	106	146	130	112200
14 x 1 1/4	1 1/4	172	0.5-4	25	3-5	50	50	52	75	232	118	157	138	129800
16 x 3/4	3/4	200	0.5-3	28	4-9	50	50	49	75	242	107	147	134	105600
16 x 1	1	200	0.5-3	28	3-7	50	50	49	75	252	118	157	134	127600
16 x 1 1/4	1 1/4	200	0.5-4	28	2-5	50	50	53	75	262	118	157	154	149600
20 x 3/4	3/4	244	0.5-3	33	3-7	50	50	49	75	283	107	147	134	118800
20 x 1	1	244	0.5-3	33	3-6	50	50	49	75	295	118	157	150	162800
20 x 1 1/4	1 1/4	244	0.5-4	33	2-4	50	50	53	75	315	118	157	173	184800

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CNC Press Brakes



CNC Punching Machines



Plasma Cutting Machines

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**HSL / HSLX / HSLX-HD**  
**Hydraulic Guillotine Shears**