

## 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 SC100 T 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.



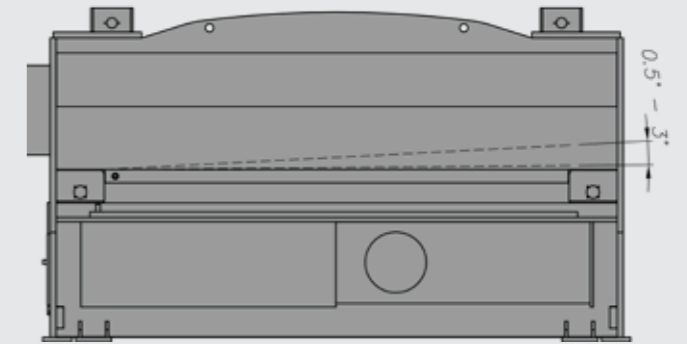
## HYDRAULIC HOLD DOWNS

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.



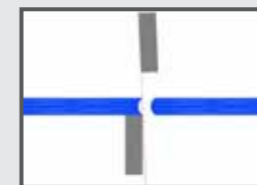
Model HSLX 3006

# Cutting angle/blade gap adjustment



## CUTTING ANGLE ADJUSTMENT

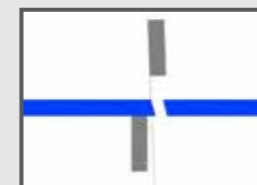
Electro-hydraulic adjustment of the rake angle by pushbutton at the control panel, and digital read-out (HSL-type). Automatic setting as a function of the plate thickness on the HSLX-type with SC100 T control. This allows to cut thin material at a lesser angle, minimizing deformation of the sheared plate.



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 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 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.



Model HSLX 3013

## 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.



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!

## 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.

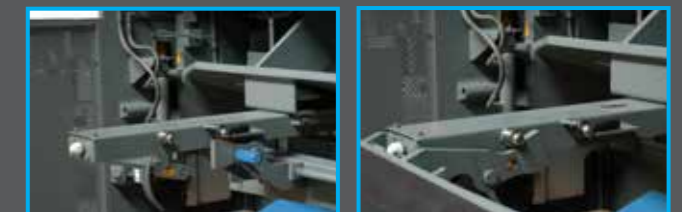
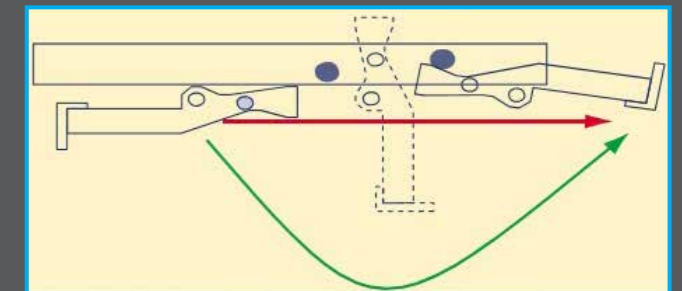


### Motorised back gauge (= MOT)

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.

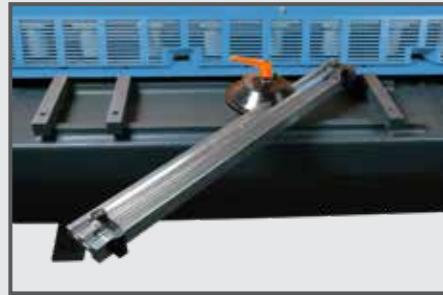
### Swing-Away back gauge (= SAB)

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.



# Optional Equipment

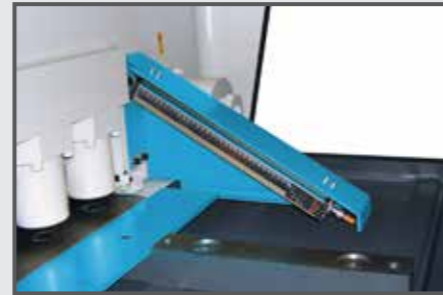
- SC100 T control unit. (X model)
- Squaring arms and front support arms.
- Ball transfers in the iron table blocks.
- Protractor for angle shearing.
- Hand Safety Guard with hand gaps and safety light curtain guards.
- Different back gauge types.
- Hydraulic sheet support system for cutting of thin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

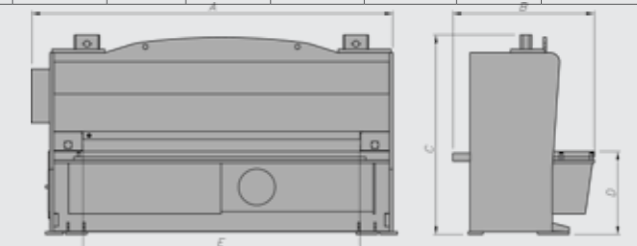


HEAVY DUTY CONVEYOR and sheet support system.

# Technical specifications HSL / HSLX range (up to 4350 mm cutting length and from 6 to 16 mm capacity)

	Capacity mild steel (400N/mm <sup>2</sup> )	E mm	degrees			mm	mm	D mm	kW	A mm	B mm	mm	C mm	Kg
		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
2006	6,5	2050	0.5-3	13	13-24	750/1000	1000	770	11	2825	1945	2680	1920	5000
2008	8	2050	0.5-3	13	12-25	750/1000	1000	770	15	2825	1930	2680	1838	5500
2010	10	2050	0.5-3	13	12-20	1000	1000	930	18,7	3150	1995	2710	2275	6800
2013	13	2050	0.5-3	13	11-19	1000	1000	930	22	3150	1995	2710	2275	8000
2016	16	2050	0.5-3	13	7-12	1000	1000	985	30	3200	2200	3080	2560	12000
3006	6,5	3050	0.5-3	18	11-22	750/1000	1000	770	11	3860	1945	2680	1920	6500
3008	8	3050	0.5-3	18	10-23	750/1000	1000	770	15	3860	1930	2680	1838	7000
3010	10	3050	0.5-3	18	10-18	1000	1000	930	18,7	4190	1995	2710	2275	8300
3013	13	3050	0.5-3	18	9-17	1000	1000	930	22	4190	1995	2710	2275	9500
3016	16	3050	0.5-3	18	5-10	1000	1000	985	30	4265	2200	3080	2560	14000
3606	6,5	3650	0.5-3	21	6-11	750/1000	1000	820	11	4510	1945	2620	2060	8000
3608	8	3650	0.5-3	21	6-11	750/1000	1000	825	15	4655	1935	2635	2050	9000
3610	10	3650	0.5-3	21	7-11	1000	1000	1030	18,7	4750	2025	2895	2395	11500
3613	13	3650	0.5-3	21	7-11	1000	1000	1030	22	4750	2090	2905	2395	12000
3616	16	3650	0.5-3	21	4-9	1000	1000	990	30	4915	2152	3275	2750	16000
4006	6,5	4050	0.5-3	23	6-11	750/1000	1000	880	11	5050	2025	2705	2006	9500
4008	8	4050	0.5-3	23	6-11	750/1000	1000	880	15	5050	2020	2705	2106	10000
4010	10	4050	0.5-3	23	7-11	1000	1000	1030	18,7	5150	2050	2900	2395	13000
4013	13	4050	0.5-3	23	7-11	1000	1000	1030	22	5150	2050	2900	2395	13500
4016	16	4050	0.5-3	23	4-9	1000	1000	990	30	5270	2220	3275	2750	20000
4306	6,5	4350	0.5-3	25	6-10	750/1000	1000	880	11	5355	2025	2710	2121	11500
4308	8	4350	0.5-3	25	6-10	750/1000	1000	880	15	5355	2040	2725	2236	12000
4310	10	4350	0.5-3	25	6-10	1000	1000	1040	18,7	5500	2100	3000	2525	14500
4313	13	4350	0.5-3	25	6-9	1000	1000	1040	22	5500	2100	3000	2525	15500
4316	16	4350	0.5-3	25	4-8	1000	1000	1000	30	5620	2270	3375	2900	22000

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



# HSLX-HD range 1

Cutting length 5020 and 6020mm and capacity 6 up to 16 mm



Model HSLX-HD 6013 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 1000 mm 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



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



# Technical specifications HSLX-HD range 1

	mm	E mm	degrees			mm	mm	D mm	kW	A mm	B mm	mm	C mm	Kg
Capacity mild steel (400N/mm <sup>2</sup> )	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	
5006	6,5	5020	0.5-3	28	6-12	1000	1030	11	6000	2100	3100	2600	19500	
5008	8	5020	0.5-3	28	5-10	1000	1030	15	6000	2130	3130	2600	21000	
5010	10	5020	0.5-3	28	5-10	1000	1030	18,5	6000	2200	3200	2675	24000	
5013	13	5020	0.5-3	28	5-10	1000	1030	22	6100	2200	3200	2675	26500	
5016	16	5020	0.5-3	28	4-8	1000	1030	45	6150	2250	3250	2700	36000	
6006	6,5	6020	0.5-3	33	5-10	1000	1030	11	7000	2100	3100	2700	24700	
6008	8	6020	0.5-3	33	4-8	1000	1130	15	7100	2130	3130	2850	26000	
6010	10	6020	0.5-3	33	4-8	1000	1180	18,5	7100	2200	3200	2980	33000	
6013	13	6020	0.5-3	33	4-8	1000	1180	22	7150	2200	3200	2980	36000	
6016	16	6020	0.5-3	33	3-6	1000	1200	45	7200	2500	3500	2980	47000	

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# HSLX-HD range 2

Cutting length 2020 up to 6020 mm and capacity 20 - 25 - 32 mm



Model HSLX-HD 3020

## 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 1250 mm stroke on ball circulating screws.

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



Model HSLX-HD 2532



Optional 'heavy duty'  
hydraulic swing-up  
(= HDSUB) back gauge  
stroke 1250 mm.



# Technical specifications HSLX-HD range 2

	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 HDSUB 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 Kg
2020	20	2020	0.5-3	13	8-14	1250	1250	980	56	2900	2460	3460	2600	20000
2025	25	2020	0.5-3	13	6-10	1250	1250	1030	56	3100	2600	3600	2650	24000
2032	32	2020	0.5-3	13	5-8	1250	1250	1030	56	3200	2750	3750	2900	31000
3020	20	3020	0.5-3	18	6-12	1250	1250	1030	56	4100	2460	3460	2650	26000
3025	25	3020	0.5-3	18	4-8	1250	1250	1040	56	4200	2600	3600	2650	38000
3032	32	3020	0.5-3	18	3-6	1250	1250	1330	56	4550	2750	3750	2900	48000
3620	20	3620	0.5-3	21	5-10	1250	1250	1030	56	4700	2460	3460	2700	31000
3625	25	3620	0.5-3	21	4-8	1250	1250	1090	56	4800	2600	3600	3000	44000
3632	32	3620	0.5-3	21	3-6	1250	1250	1330	56	5000	2750	3750	3000	52000
4020	20	4020	0.5-3	23	5-10	1250	1250	1030	56	5100	2500	3500	2800	34000
4025	25	4020	0.5-3	23	4-7	1250	1250	1090	56	5300	2600	3600	3200	48000
4032	32	4020	0.5-4	23	3-5	1250	1250	1330	56	5550	3000	4000	3200	56000
4320	20	4320	0.5-3	25	4-9	1250	1250	1030	56	5400	2500	3500	3000	37000
4325	25	4320	0.5-3	25	3-7	1250	1250	1090	56	5600	2700	3700	3300	51000
4332	32	4320	0.5-4	25	3-5	1250	1250	1330	56	5900	3000	4000	3500	59000
5020	20	5020	0.5-3	28	4-9	1250	1250	1250	56	6150	2730	3730	3400	48000
5025	25	5050	0.5-3	28	3-7	1250	1250	1250	56	6400	3000	4000	3400	58000
5032	32	5020	0.5-4	28	2-5	1250	1250	1350	56	6650	3000	4000	3900	68000
6020	20	6020	0.5-3	33	3-7	1250	1250	1250	56	7200	2730	3730	3400	54000
6025	25	6020	0.5-3	33	3-6	1250	1250	1250	56	7500	3000	4000	3800	74000
6032	32	6020	0.5-4	33	2-4	1250	1250	1350	56	8000	3000	4000	4400	84000

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CNC Press Brakes



CNC Punching Machines



Plasma Cutting Machines

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**Hydraulic Guillotine Shears**