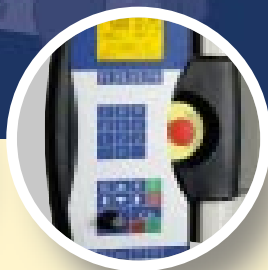
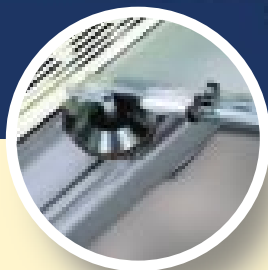


Hydraulic guillotine shears



Types
TS/TSX

for impressive
performances



All HACO shears are recognized for being well-built, accurate and cost-effective, meeting the demand for the high-precision sheet metal and heavy fabrication market to run small- or high-volume production.

All our TS shears are equipped with power rake angle adjustment from the SP 8 control panel and quick blade gap adjustment.

Both 6 and 12mm models are available with our SC70 CNC controls (TSX types).

These machines are delivered with an extensive range of standard features.

The TS/TSX series shears remain the pacesetters in the price/quality ratio market of today. With thousands of units running day after day all over the world, we are convinced of the durability and craftsmanship of these machines



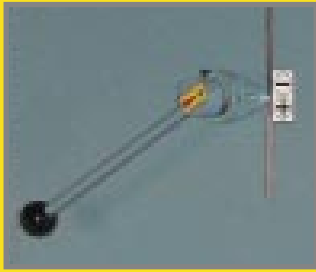
ÉQUIPEMENT STANDARD

- Hydraulic motor-pump group arranged at the back of the machine, easily accessible and protected by a sheet.
- 2 under driven cylinders. Electro-hydraulic adjustment of the rake angle by push buttons in the control panel.
- All operator controls are conveniently located at the left-hand side of the machine within the immediate reach of the operator.



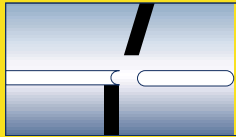
- The standard SP8 control offers the following functions : automatic positioning of the backgauge to the preselected position with digital read-out, stroke control and selection for backgauge retraction.

- Quick blade gap setting - on 6mm-models by means of one easily accessible lever at the front of the machine.
- Tilting sheet holddowns, pressure of which is independant from the shearing pressure, in order to clamp properly each sheet thickness. These holddowns are arranged more closely on the left and the right hand side to conveniently cut small sheets.
 - Hydraulic and electric overload protection.
 - 4 edged cutting blades.
 - On all models, motorised backgauge. On 6mm stroke 750mm, on 12mm stroke 1000mm.
 - Shearing table with a number of square iron blocks, for easy 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 footpedal control.
 - Filled oiltank.
 - Instruction and maintenance manuals.
- Service tools.

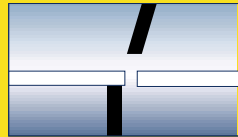


BLADE GAP

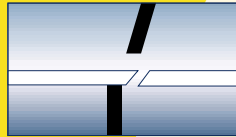
Our quick blade gap adjustment is located conveniently in front of the machine (on 6mm-models) or at the rear of the machine (on 12mm models) Adjustment ranges from 0,05mm blade gap for very light sheet thicknesses and progressively increases for heavier thicknesses up to the maximum shear capacity.



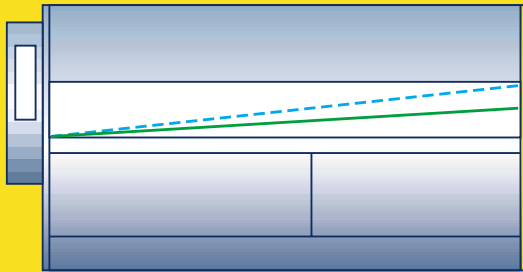
Too small



Correct



Too big



ADJUSTABLE RAKE ANGLE

Electro-hydraulic adjustment of the rake angle by push buttons at the control panel, with digital read-out, allows thin material to be cut at less angle, minimizing deformity of the sheared stock.



HYDRAULICS

TS shears are bottom driven by 2 pull-down cylinders. The hydraulic system consists of a motorpump group and a multi-function manifold block, conveniently located at the rear of the machine.

This compact assembly brings valves and hoses together, thus simplifying the system and eliminating troublesome leaks.

The connections to the cylinders, the holddowns and pumps are by means of flexible hoses.

Two high pressure relief valves protect the holddowns and the cutting cycle from overload.

Oversized oiltank for trouble-free production shearing.

Picture including hydraulic blade gap setting (standard on TSX models with SC70 control unit)



BACKGAUGES

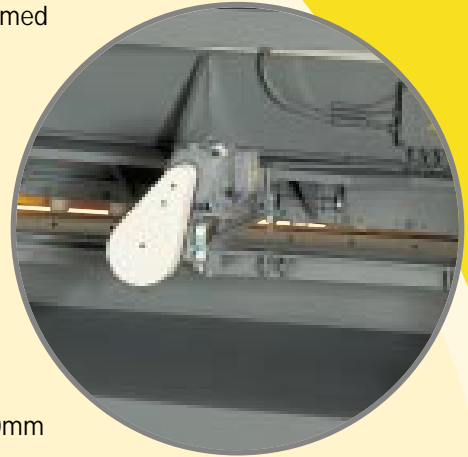
The backgauge consists of 2 rigid arms (containing guides and control spindle) and the parallel adjustable backgauge bar. This assembly assures a precise positioning of the sheet. Swing-up and swing-away types enable cutting of sheets longer than the standard stroke length.

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.



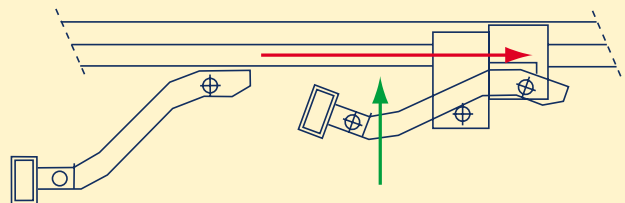
MOTORISED BACKGAUGE

Lateral movement front to back.
Standard on all models
TS 3006: backgauge stroke 750mm.
Expandable in option to 1000mm.
TS 3012: stroke 1000mm



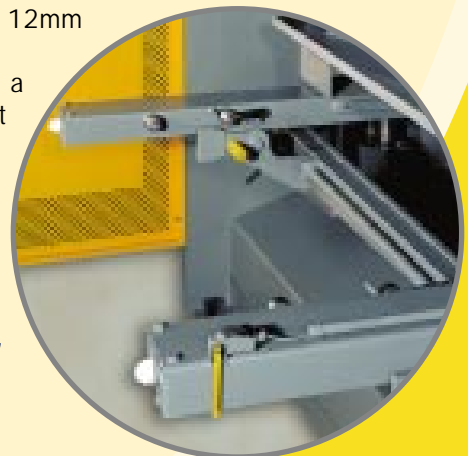
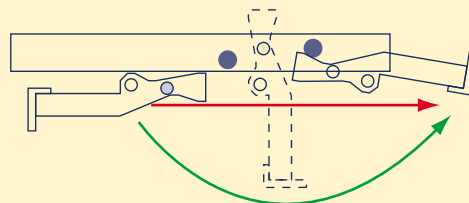
SWING-UP BACKGAUGE

Power backgauge stroke 820mm.
Available as option on 6mm 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 12mm models
The SAB backgauge works on a cam operating system that allows the backstop to swing away, in order to cut material longer than 1000 mm.



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 stainless steel.

- Hand Safety Guard with hand gaps.
- Different backgauge types.
- Safety fences and light beams at the rear of the machine (standard for countries requiring the CE safety specifications)

TS executed with the optional SC70 control is called TSX.

Basic features of the SC70 control :

- LCD screen with 16 lines of 26 characters.
- 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.
- 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-step.

Programming modes :

- Automatic :
By entering the sheet thickness for mild steel, 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 are programmed manually.



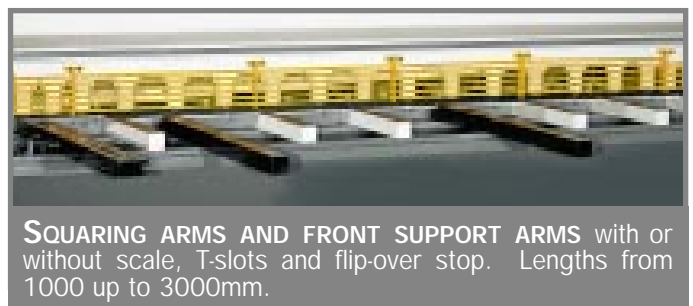
HAND SAFETY GUARD with hand gaps for handling small sheets.



BALL TRANSFERS mounted in the iron table blocks, for easy feed-in of the sheets.



PROTRACTOR for angle shearing.

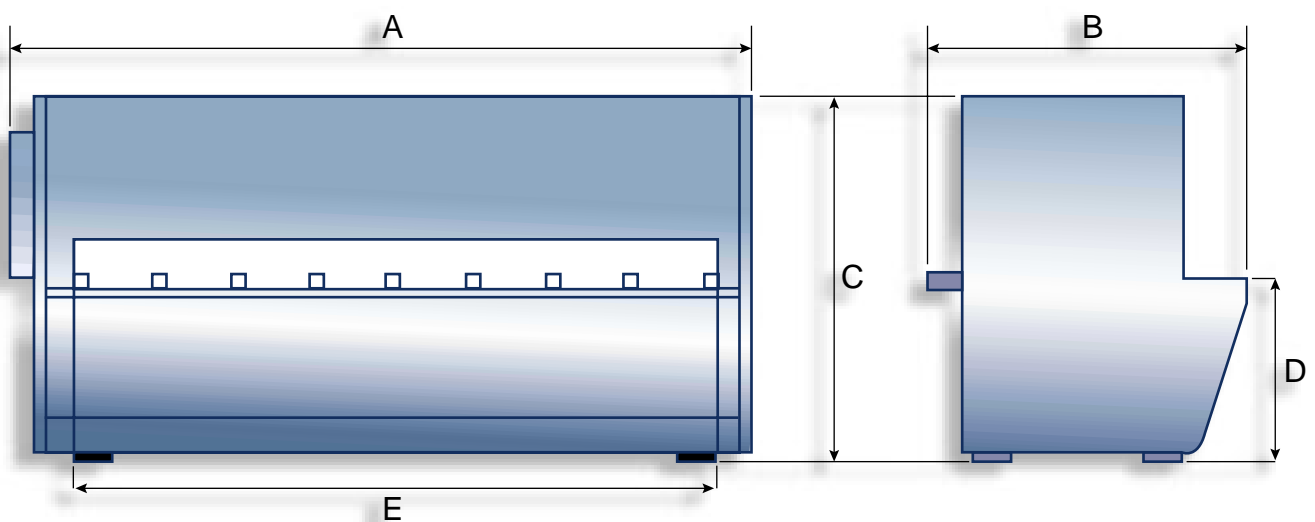


SQUARING ARMS AND FRONT SUPPORT ARMS with or without scale, T-slots and flip-over stop. Lengths from 1000 up to 3000mm.

TECHNICAL DATA TS- range

Type		2006	3006	3012
Capacity mild steel (400N/mm ²)	mm	6	6	12
Cutting length	E mm	2050	3050	3050
Angle adjustment	degrees	0,5 - 3	0,5 - 3	0,5 - 3
Number of plate holddowns		13	18	18
Number of strokes / min.		10-15	8-14	7-14
Length squaring arm	mm	1000	1000	1000
Stroke Backgauge	mot version mm	750	750	1000
	Sub version (option) mm	820	820	---
	Sab version (option) mm	---	---	1000
Working height	D mm	770	770	900
Motorpower	kW	7,5	7,5	22,5
Length	A mm	2800	3800	4200
Width (without CE Safety fences)	B mm	*1650	*1650	**2030
Width (including CE Safety fences)	mm	*2700	*2700	**2800
Height	C mm	1700	1750	2030
Approx Weight	kgs	3500	4500	8500

* mot version / ** sab version





for impressive
performances

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COMPLETE SHEETWORKING PROGRAMME

HYDRAULIC PRESSBRAKES

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



HYDRAULIC STEELWORKERS

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



ANGLE NOTCHERS

Fixed and variable angle.
Up to 6mm

