

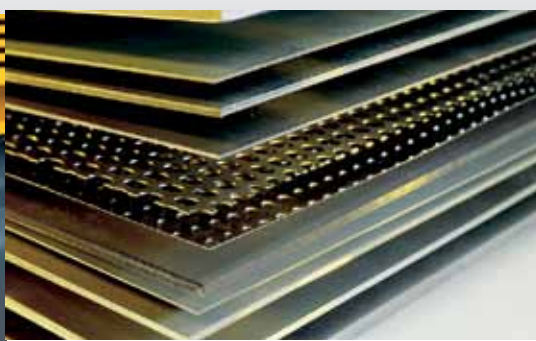


for impressive
performances



TS / TSX

■ HYDRAULIC GUILLOTINE SHEARS





for impressive
performances

All HACO shears are recognised 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 SP9 control panel and quick blade gap adjustment.

Both 6 and 12 mm models are available with our SC90 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.

STANDARD EQUIPMENT

- 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 SP9 control offers the following functions: automatic positioning of the back gauge to the pre-selected position with digital readout, stroke control/counter and selection for back gauge retraction.
- Quick blade gap setting by means of one easily accessible lever at the front of the machine.
- Tilting sheet 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.
- 4 edged cutting blades.
- On all models, motorised back gauge. On 6 mm stroke 750 mm, on 12 mm stroke 1000 mm.
- Shearing table with a number of square iron blocks, for easy 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 side of the machine.
- Movable foot pedal control.
- Instruction and maintenance manuals.
- Service tools.



TS 3012



Basic features of the SC90 control:

- LCD-display (5").
- Memory capacity : max. 200 programs, max. 400 steps.
- Material list of max. 32 materials.
- Each program contains the basic cutting parameters such as material type or 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 back gauge.
 - Backlash compensation, delayed sheet release.
 - Mode selection Inch-Metric.
 - (Preset) stroke counter up or down with 0-stop.
 - Language support.
 - Search Mode for Plate support type I (optional).



AUTO BLADE GAP (TSX)

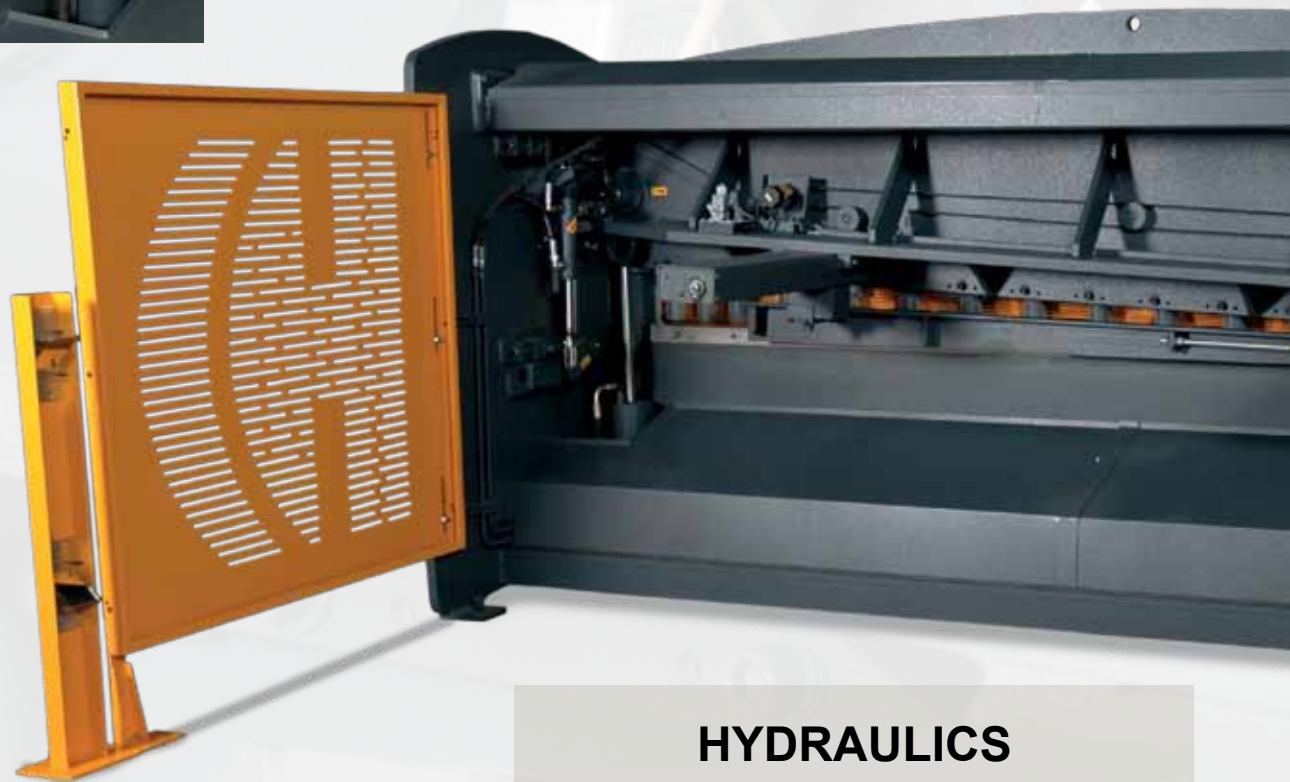


Automatic blade gap adjustment in function from the material thickness by means of 2 hydraulic cylinders.

MANUAL BLADE GAP (TS)



Our quick blade gap adjustment is located conveniently in front of the machine. Adjustment ranges from 0,05 mm blade gap for every light sheet thicknesses and progressively increases for heavier thicknesses up to the maximum shear capacity.



HYDRAULICS

TS/TSX shears are bottom driven by 2 pull-down cylinders. The hydraulic system consists of a motor pump unit and 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 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 production shearing.

ADJUSTABLE RAKE ANGLE

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

BACK GAUGES

The back gauge consists of 2 rigid arms (containing guides and control spindle) and the parallel adjustable back gauge 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 SP9 preselection control or programmable positioning with the SC90 control. Digital readout of the actual and pre-selected or programmed position. On the 6 mm models, motorised driven back gauge with a standard stroke of 750 mm and optionally to extend to 1000 mm. On the 12 mm model, motorised driven back gauge with a standard stroke of 1000 mm.

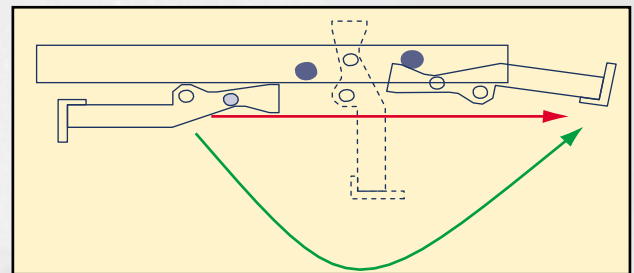


TSX 3006

SWING-AWAY BACKGAUGE (= SAB)

Powered back gauge, stroke 1000 mm. Available as option on 12 mm models.

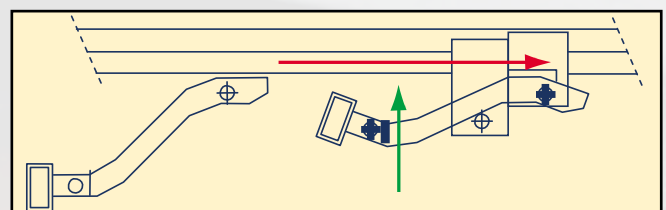
The SAB back gauge works on a cam operating system that allows the backstop to swing away, in order to cut material longer than 1000 mm.



SWING-UP BACKGAUGE (= SUB)

Powered back gauge, stroke 820 mm. Available as option on 6 mm models.

When the backstop runs backwards, it will mechanically lift up to cut longer sheets. Also expandable to 1000 mm stroke with lifting up feature.



OPTIONAL EQUIPMENT

- SC90 control unit (TSX type).
- Pendant control panel (only with SC90 controller).
- 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 back gauge types.
- Safety fences and light beams at the rear of the machine (necessary for countries requiring the CE safety specifications).
- Sheet hold-up system (type I).



Sheet hold-up system (type I) with 2 support plates integrated in the back gauge angle bar. Use and non-use of the support plates activated by hydraulic power. Maximum allowed plate thickness : 4 mm

Only available on TSX type with motorised back gauge (not on SAB or SUB versions).



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.



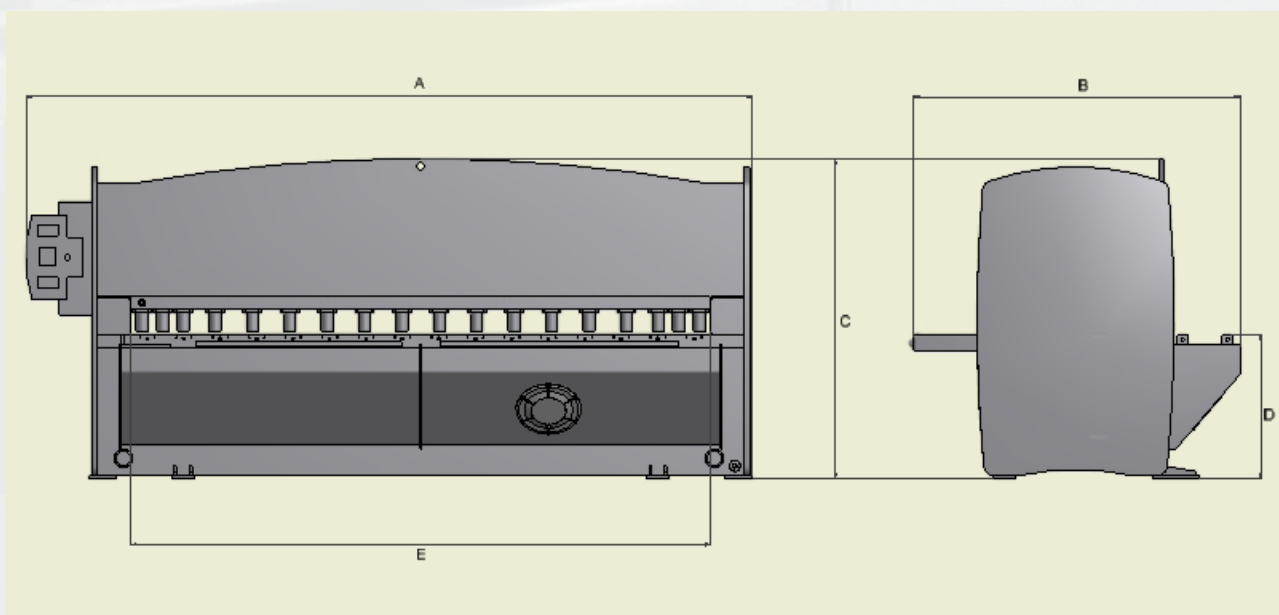
Squaring arms and front support arms with or without scale, T-slots and tilting stop. Lengths from 1000 up to 3000mm.



TECHNICAL DATA TS / TSX

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 hold-downs		13	18	18
Number of strokes / min.		10 - 15	8 - 14	7 - 14
Length squaring arm	mm	1000	1000	1000
Stroke motorised back gauge				
= MOT version (standard)	mm	750	750	1000
SUB version (option)	mm	820	820	---
SAB version (option)	mm	---	---	1000
Working height	D mm	770	770	930
Motor power	kW	7,5	7,5	22,5
Length	A mm	2880	3880	4220
Width (without CE Safety fences)	B mm	*1650	*1650	**2030
Width (including CE Safety fences)	mm	*2660	*2660	**2800
Height	C mm	1660	1700	2210
Weight (approx.)	kg	3500	4500	8500

*MOT version / **SAB version





for impressive performances

HACO SHEET METAL WORKING PROGRAM

Plasma Cutting



Conventional and CNC Press brakes



Angle Notching



CNC Punching



for impressive performances

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