



# TS(X) SERIES

Hydraulic Guillotine Shears

# Hydraulics and rake angle

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 SC200 control (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.



# Cutting angle/blade gap adjustment

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 the control panel - SP9 with push buttons and digital readout or SC200 touch screen - allows thin material to be cut at less angle, minimising distortion of the cut material.



## 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.



## Auto blade gap (TSX)

Automatic blade gap adjustment in function of 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 thin sheet thicknesses and progressively increases for heavier thicknesses up to the maximum shear capacity.

# Standard features

## Standard features of the TS(x)

- Hydraulic motor-pump group arranged at the rear of the machine.
- 2 under driven cylinders. Electro-hydraulic adjustment of the rake angle.
- All operator controls located within the immediate reach of the operator.
  - The TS comes standard with the SP9 control and offers the following functions:
    - Automatic positioning of the backgauge to the preselected position, stroke control, counter and selection for backgauge retraction
    - Quick blade gap setting
    - Tilting sheet hold downs, pressure of which is independent from the shearing pressure, in order to clamp each sheet thickness properly
    - Hydraulic and electric overload protection.
    - 4 edged cutting blades
    - Motorized backgauge 1000 mm on all models
    - Shearing table with a number of square iron blocks, for easy sheet feed-in and increasing operator's safety drastically.
    - Squaring arm of 1000 mm, with scale, T-slot and disappearing stop
- Movable foot pedal control
- Instruction and maintenance manuals
- Non-filled oil tank (due to environmental regulations)
- Service tools



TSX 3012



TS comes standard with the SP9 control  
TSX comes standard with the SC200 control

## SC200 Control



### Basic Features

- Simplified icon based programming with clear display architecture
- Personalised access codes with different access rights
- Pre-equipped for remote support
- Ethercat bus communication
- Integrated safety
- Based on new reliable German hardware

### Optional Features

- Integrated optical finger protection control
- Integrated oil temperature control

### Programming Modes

- 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 SC200 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: backgauge 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!**

# Backgauge

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.

Motorized positioning with the SP9 pre-selection control or programmable positioning with the SC200 control. Digital readout of the actual and pre-selected or programmed position.



## Motorized backgauge (MOT)

Lateral movement front to back.  
Standard on all models.  
Powered backgauge, stroke 1000 mm.

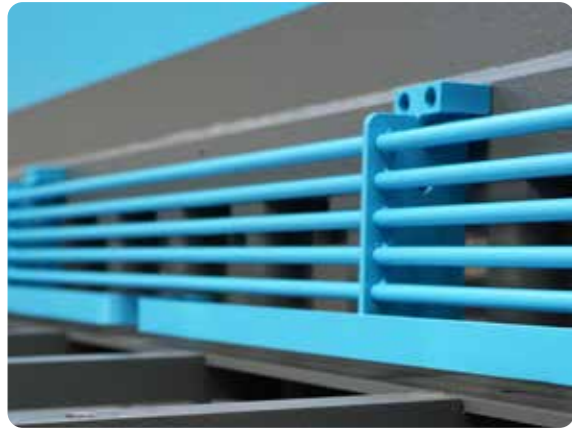
## Optional Rear Safety



# Optional equipment

## Optionals

- SC200 control unit (TSX type)
- Pendant control panel (only with SC200 controller)
- Squaring arms and front support arms
- Full table with ball transfers
- Protractor for angle shearing
- Blades for cutting stainless steel
- Hand safety guard with hand gaps and safety light curtain guards
- Hold downs with soft feet inserts and pressure regulation
- Safety fences and light beams at the rear of the machine (necessary for countries requiring the CE safety specifications)



Hand safety guard with hand gaps for handling small sheets.



Protractor for angle shearing.



Ball transfers mounted in the iron table blocks, for easy feed-in of the sheets.



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

# Technical specifications

	Capacity mild steel (400N/mm <sup>2</sup> ) [mm]	Cutting length [mm]	Cutting angle [°]	Number of plate hold downs	Number of strokes/min at min. angle - max. angle	Length squaring arm [mm]	Stroke of backgauge MOT version [mm]	Working height [mm]	Motor Power [kW]	Length [mm]	Width (without CE safety fences) [mm]	Width (with CE safety fences) [mm]	Height [mm]	Approximate weight [kg]
<b>2006</b>	6	2050	0,5-3	13	10-15	1000	1000	770	7.5	2825	1905	2715	1660	3500
<b>3006</b>	6	3050	0,5-3	18	10-15	1000	1000	770	7.5	3840	1905	2715	1700	4500
<b>3008</b>	8	3050	0,5-3	18	6-17	1000	1000	830	15	4055	1905	2715	1830	5200
<b>3012</b>	12	3050	0,5-3	18	7-14	1000	1000	930	22.5	4180	2030	2800	2210	8500

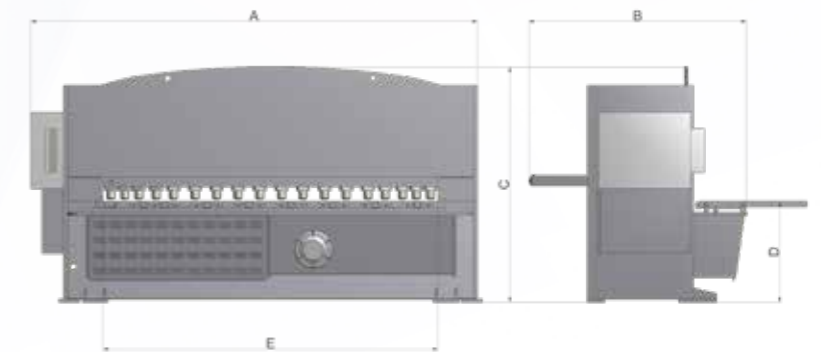
**E**

**D**

**A**

**B**

**C**





## ADVANCED TECHNOLOGIES, SINCE 1965



Bending



Robotics



Cutting



Shearing

With decades of experience and leading technologies, we are known for our high-quality customized solutions for sheet metal fabrication and machining. Whether Laser cutting, bending or shearing, at HACO we offer precision, quality and innovation.



Customized solutions



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Global reach



Local focus

Find out how we can take your shearing projects to the next level and view our extensive portfolio of success stories.



## Machinery Masterminds

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