



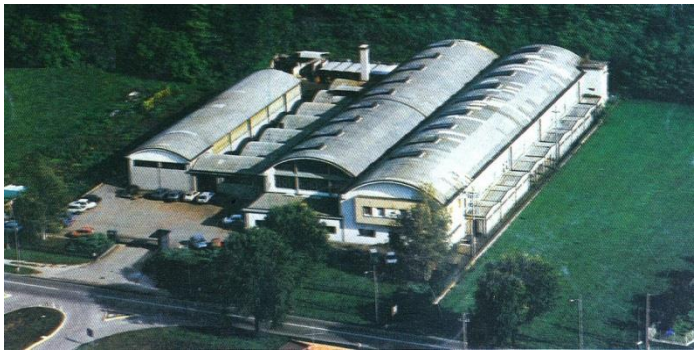
# TAURUS…

## Bluline range of machines

C. E G. Srl

BLULINE REDLINE SASCOLINE

# Taurus facilities



many sell machines, few make machines !!


welding workshop

honeycomb welding

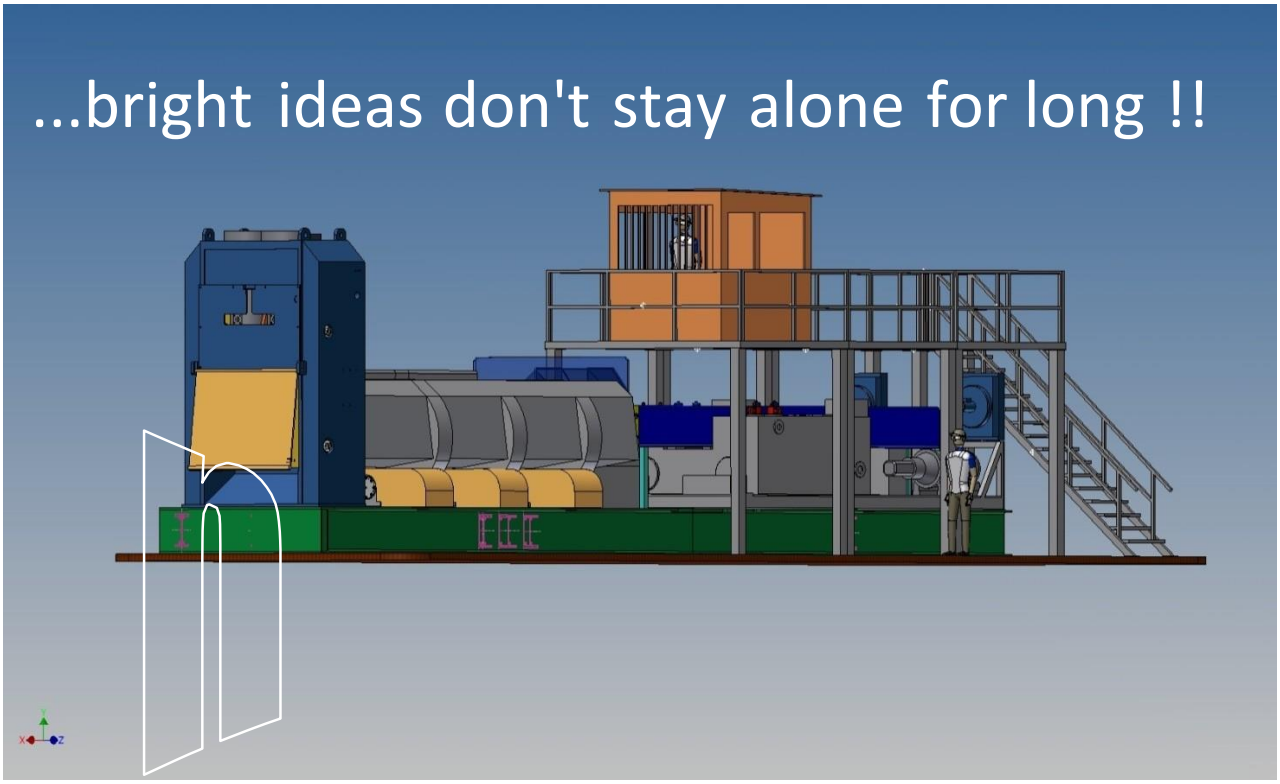
welding robot

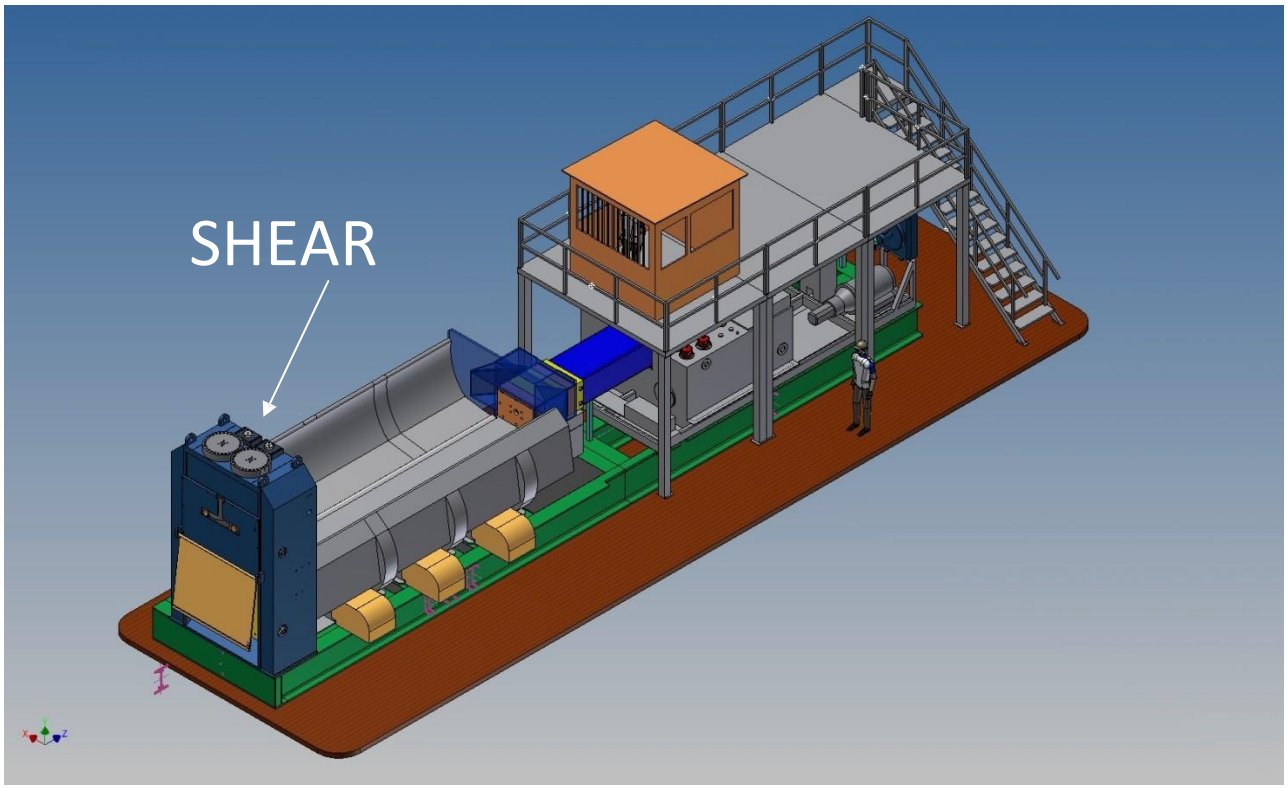


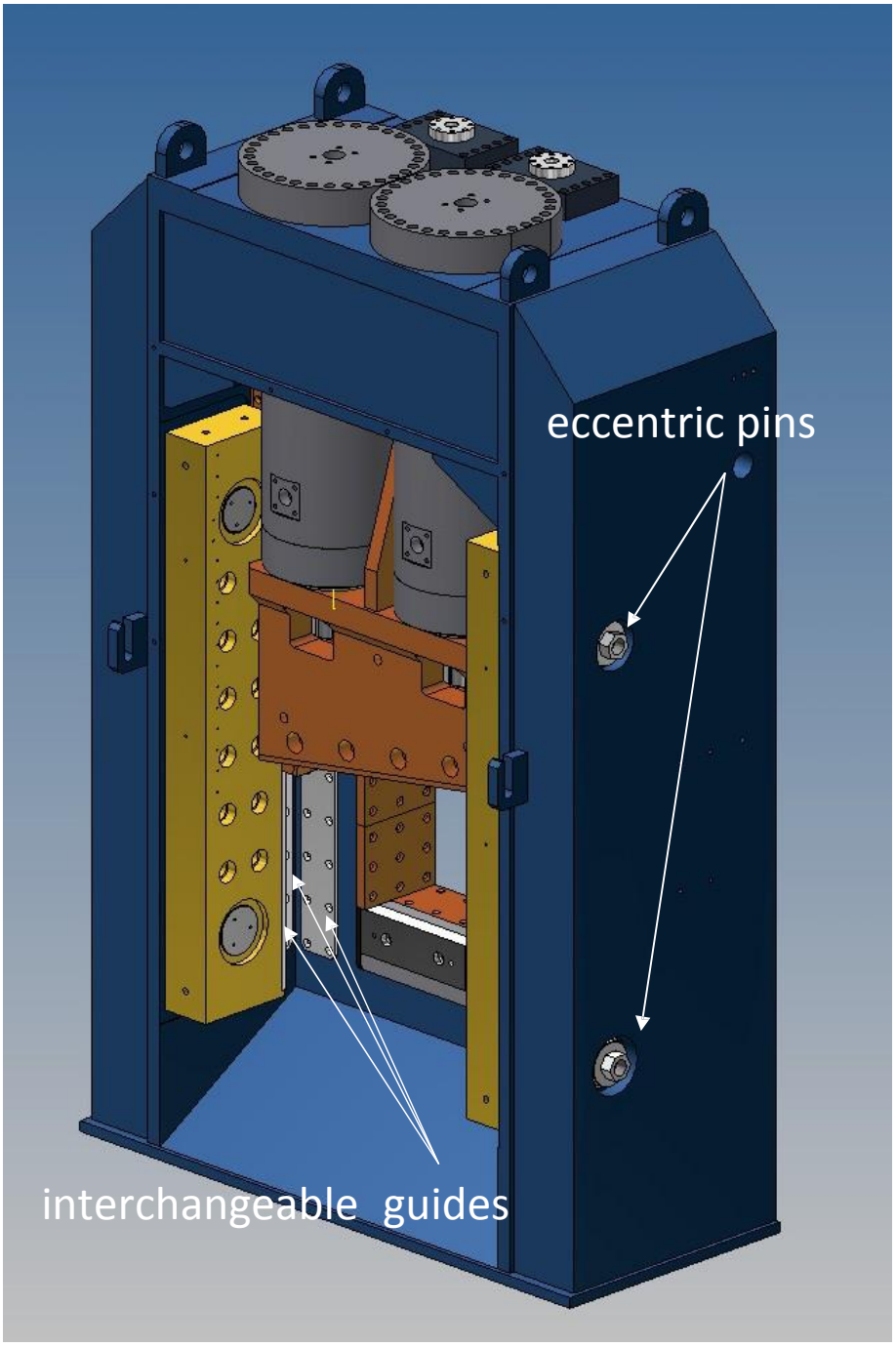



SERVICE

...bright ideas don't stay alone for long !!

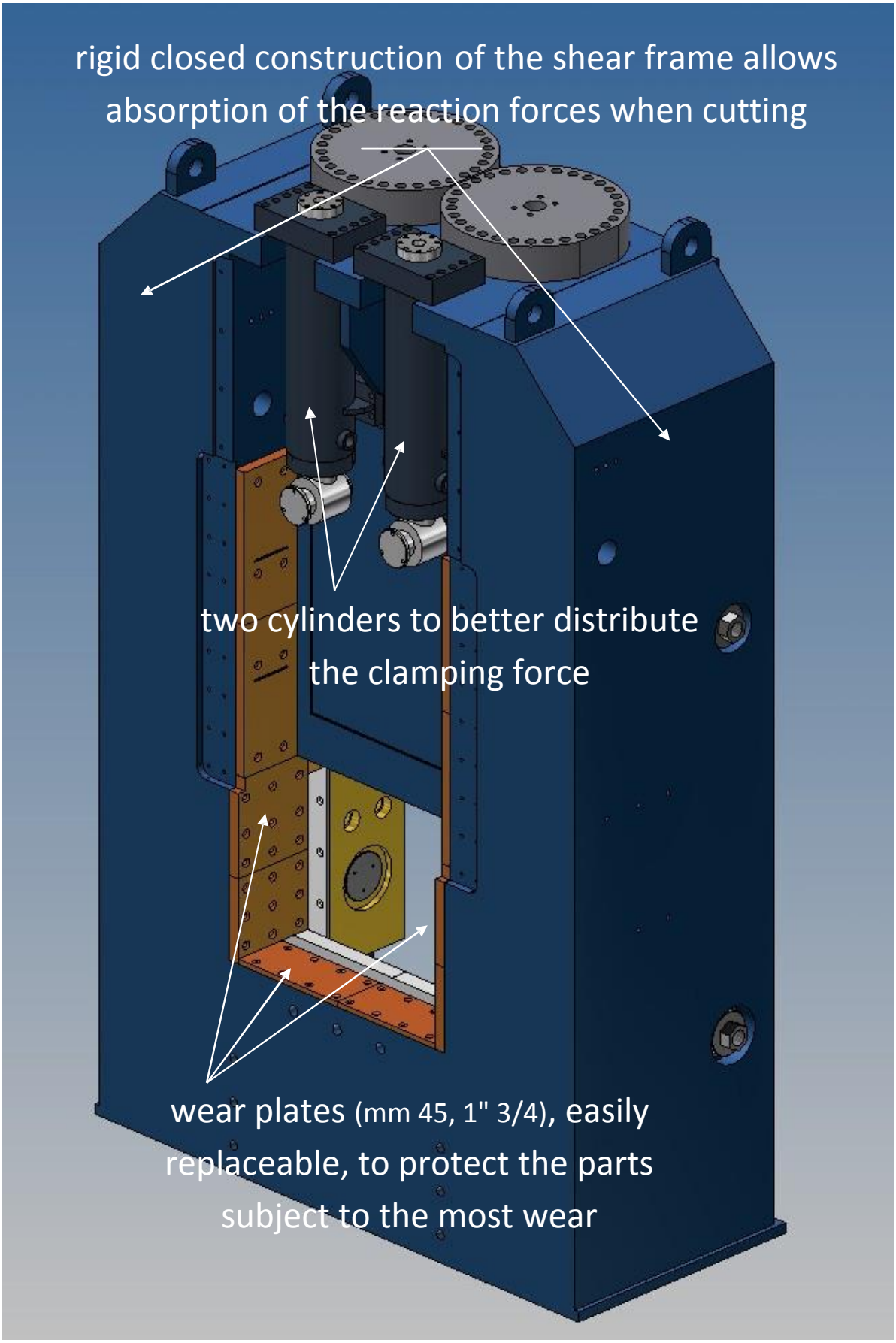


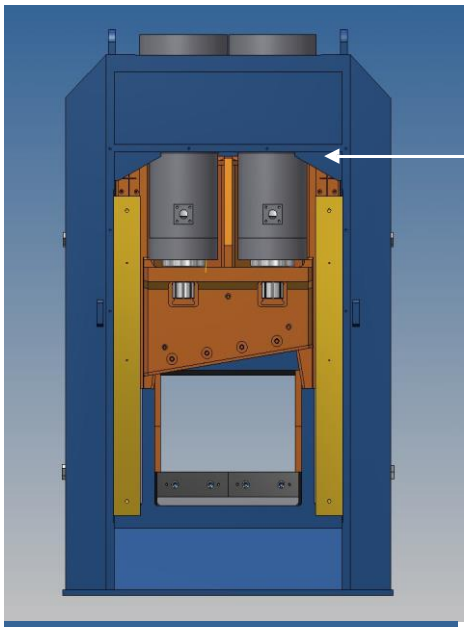





Eccentric pins to adjust clearance, due to the wear, between the slides and blades. It is important to maintain proper running clearance between the top blade and the bottom blade.

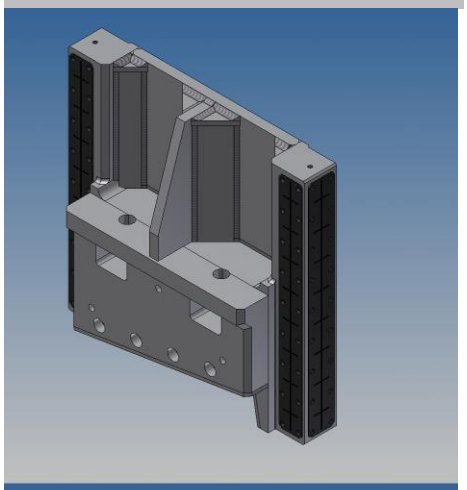
This should be done from the outside of the shear frame, with the eccentric pins mowed against the blade slide to force it to the bottom blade. Shims should not be used, because they usually require great deal of labor and preparation during the turning or changing of blades. If used improperly, shims may cause serious damage.

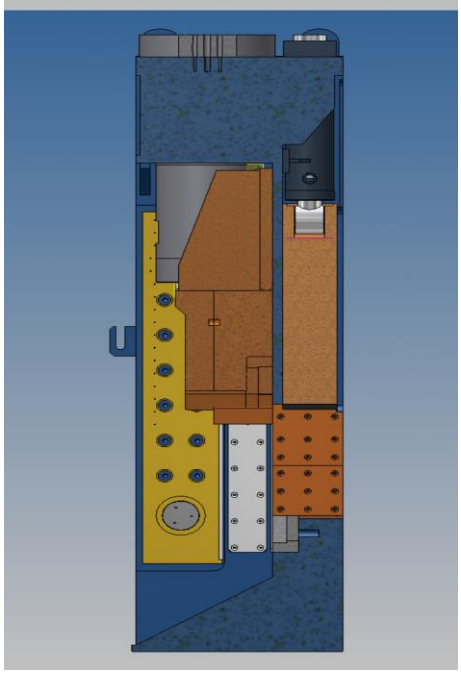

rigid closed construction of the shear frame allows absorption of the reaction forces when cutting
two cylinders to better distribute the clamping force
wear plates (mm 45, 1" 3/4), easily replaceable, to protect the parts subject to the most wear



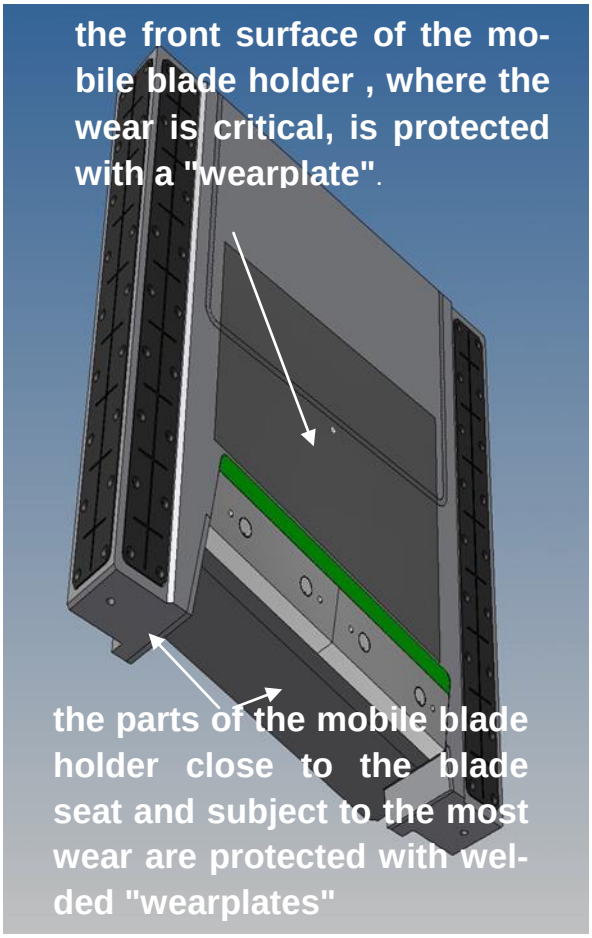
## TWO CYLINDERS ON THE SHEAR

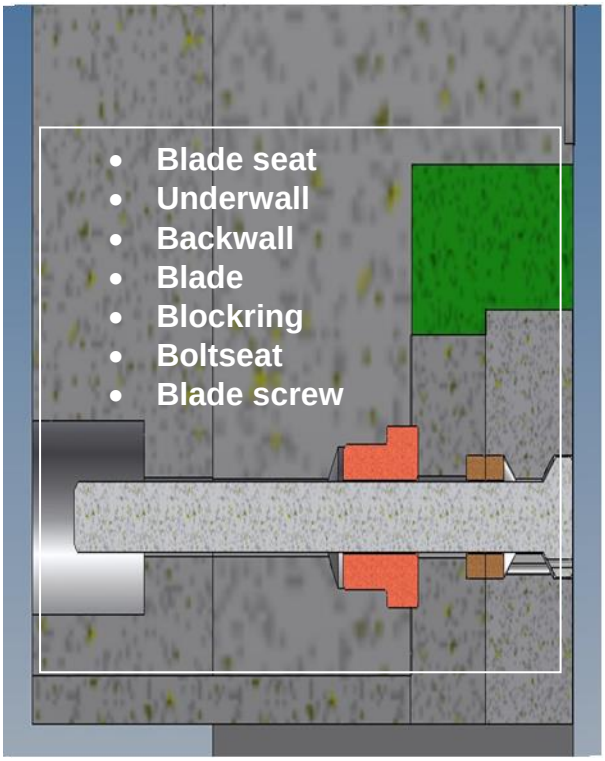
This solution, comparing with shears using one cutting cylinder, minimizes the sliding friction between the guides of the shear frame and the guides of the mobile blade holder. This cutting system is better balanced and it follows higher cutting performances and less wear on the slides, for the benefit of a longer working life. Doing this, under the same shear dimensions, are also improved the length to diameter ratio of the cutting cylinders guides with less wear and maintenance. Moreover, is easier to service two cylinders with a little size than to handle and maintain





The length of the blade holder slides compared to the length of the cutting blade has an high ratio. A short cutting head generally means high concentration of forces in small areas of the guides.
A tall cutter head in relation to knife width spreads the forces over a much larger area and reduces wear and overstress failures.
How the cutter head is guided in the shear frame is also very critical. The shape of the guide area and the material used to line the guide surface are very important.
The adjustable prismatic slides of our blade holder determine the cutting force will be transferred precisely and well dissipated and distributed into the shear frame. The design of our prismatic guides with large guide surfaces reduces the face pressure and allow a longer working life.
Material that is used to line the guide areas can be steel- on-steel or steel-on-bronze. However, neither of these allow much protection if they are not properly lubricated and have a shorter working life if compared with use of the new composites.
The Taurus guides coupling is made from hardened steel and proper synthetic material, this solution permits foreign bodies to become embedded in the plastic and thus cause no further damage to the guides.
Plastic, furthermore, has excellent emergency running properties.




The knife angle is an important feature of the shear. On most shears knives are angled at 7 to 10 degrees.

Only few models has a 12 and more degree angle on the top knife.

The angle, or rake, of the blade will force the material to the high side of the knife overloading that side of the frame.

The rake of the top-blade over 10 degrees, against a limited increment of the cutting capacity, has as consequence a sensible increase in overstress on the mobile slides, particularly if the guide surfaces and the height of the mobile blade older are not adequate.

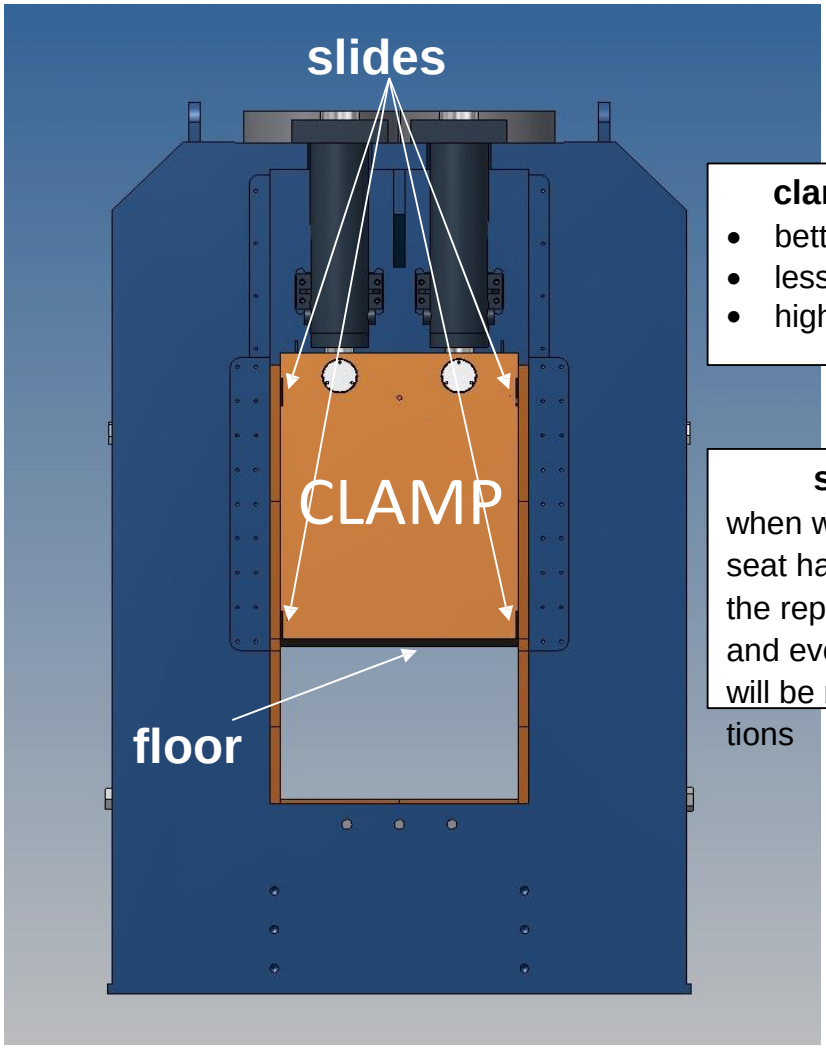
Most manufacturers stay in the 7 to 10 degrees range in an effort to eliminate, or at least reduce, this load.

Taurus has the top blade with a cutting angle of 9 or 10 degrees, depending on the size of the shear, that are the right balance between cutting efficiency, wear on the guides of the mobile blade holder and overstress on the shear structures.

How the blades are held in place in the blade holder and how the blade holder protects the base metal is also important.

Poor design and/or weak material in the blade holder or in the seat area can cause a cold flow or deformation of the base, sometimes making proper cutting clearance impossible and bringing a short working life of the blades.

For this reason we designed a large seat area, with a surface dimension depending on the cutting force and we have set-in high resistance steel with high elastic limit in the supporting surface. Replaceable bolts seats are needed to preserve the bolts tightening and to maintain control of the blades during shearing.

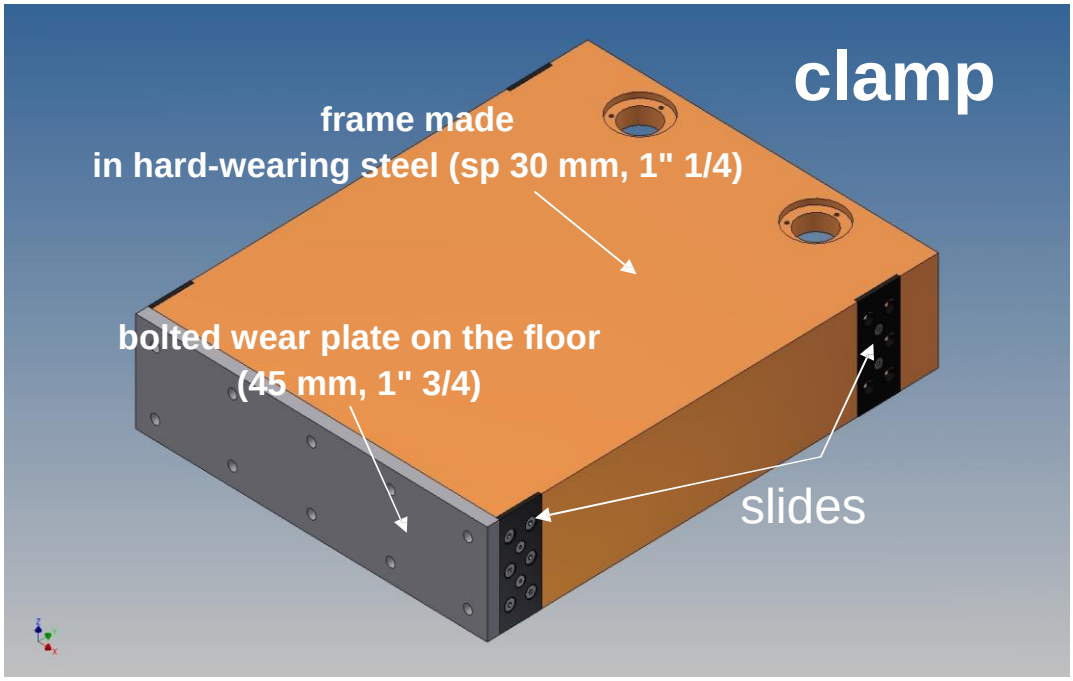


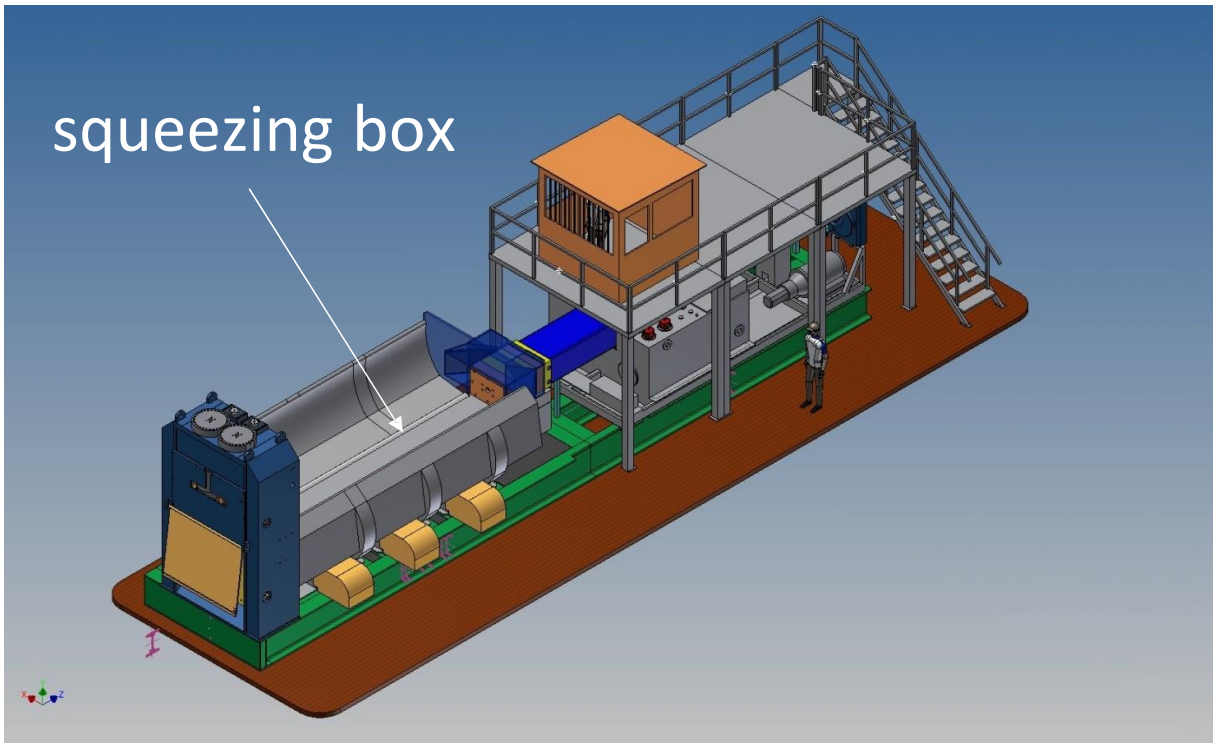

**clamp with two cylinders**

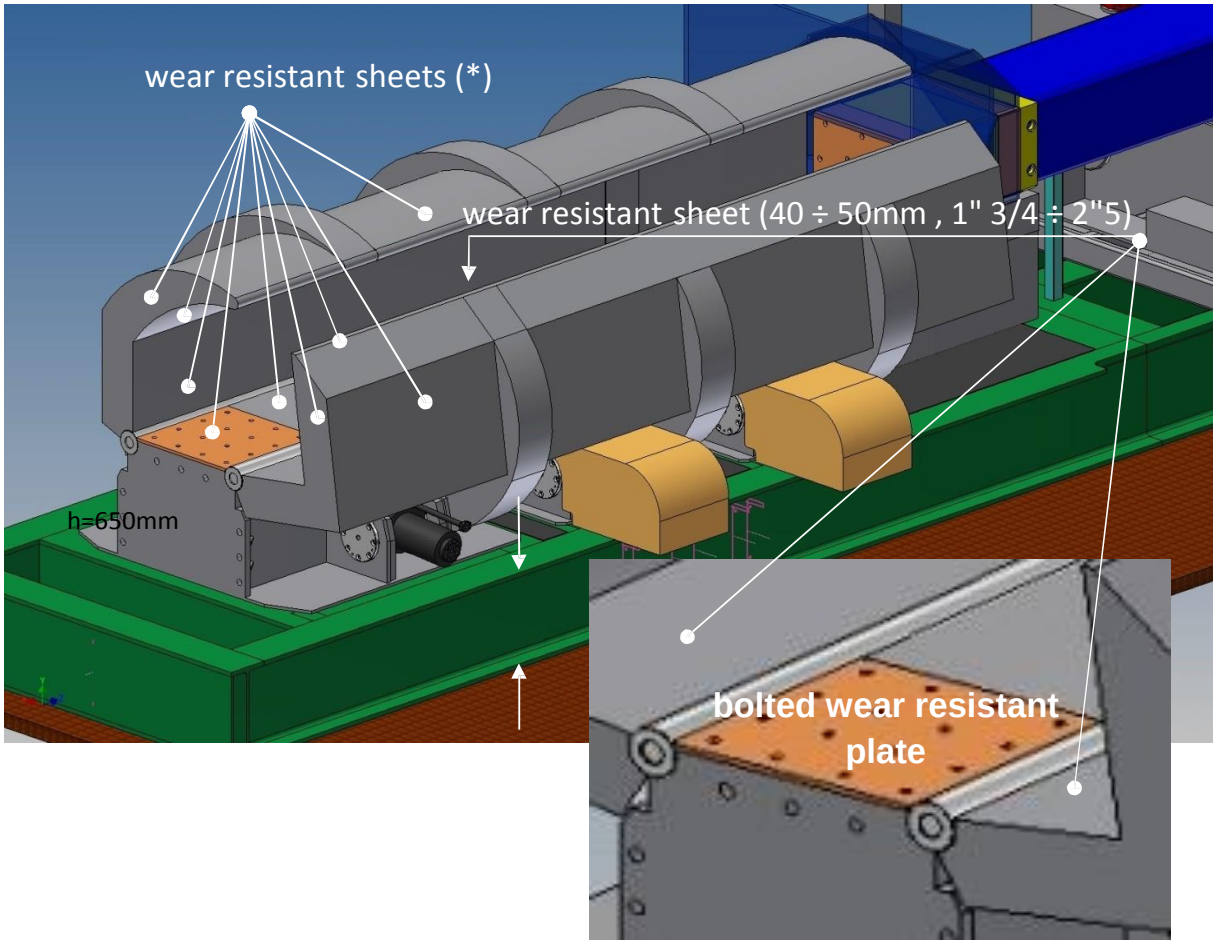
- better share of the clamping force
- less wear on the clamp slides
- higher scrap density

**slides on the clamp**

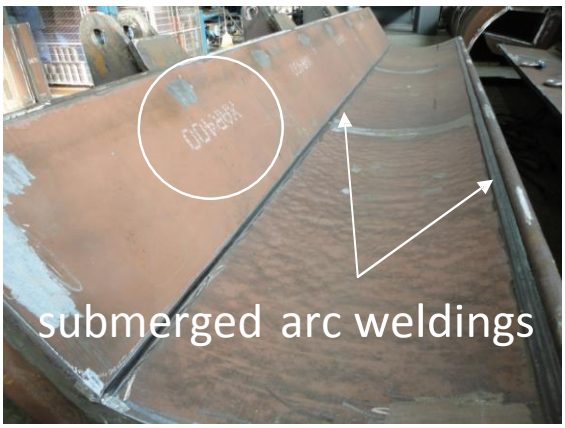
when wear is such as the clamp seat has to be reconditioned, with the replacement of the 4 slides and eventually the floor the clamp will be rebuilt to its original conditions




squeezing box


wear resistant sheets (*)
wear resistant sheet (40 ÷ 50mm , 1" 3/4 ÷ 2"5)
h=650mm
bolted wear resistant plate


(*) The Inside and outside surfaces of the «wings areas», where wear is critical, are made of highly wear-resistant steel.
Using wear resistant steel “combined” in the frame of the "wings" assure the required solidity to the heavy duty structures.

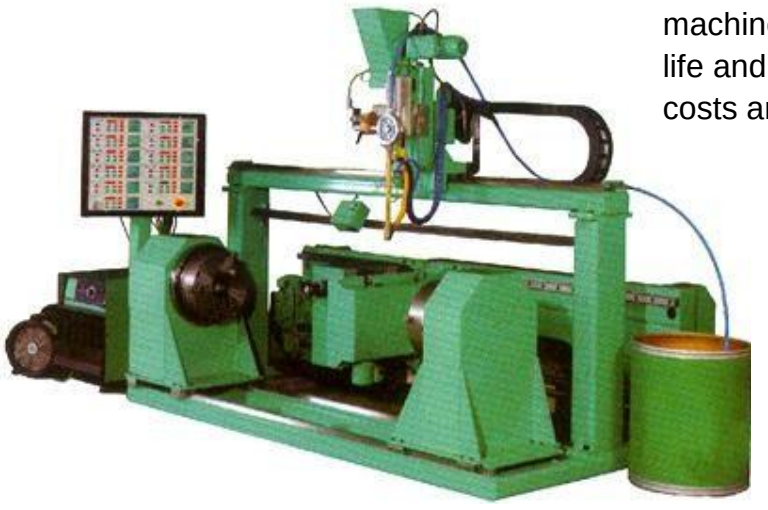


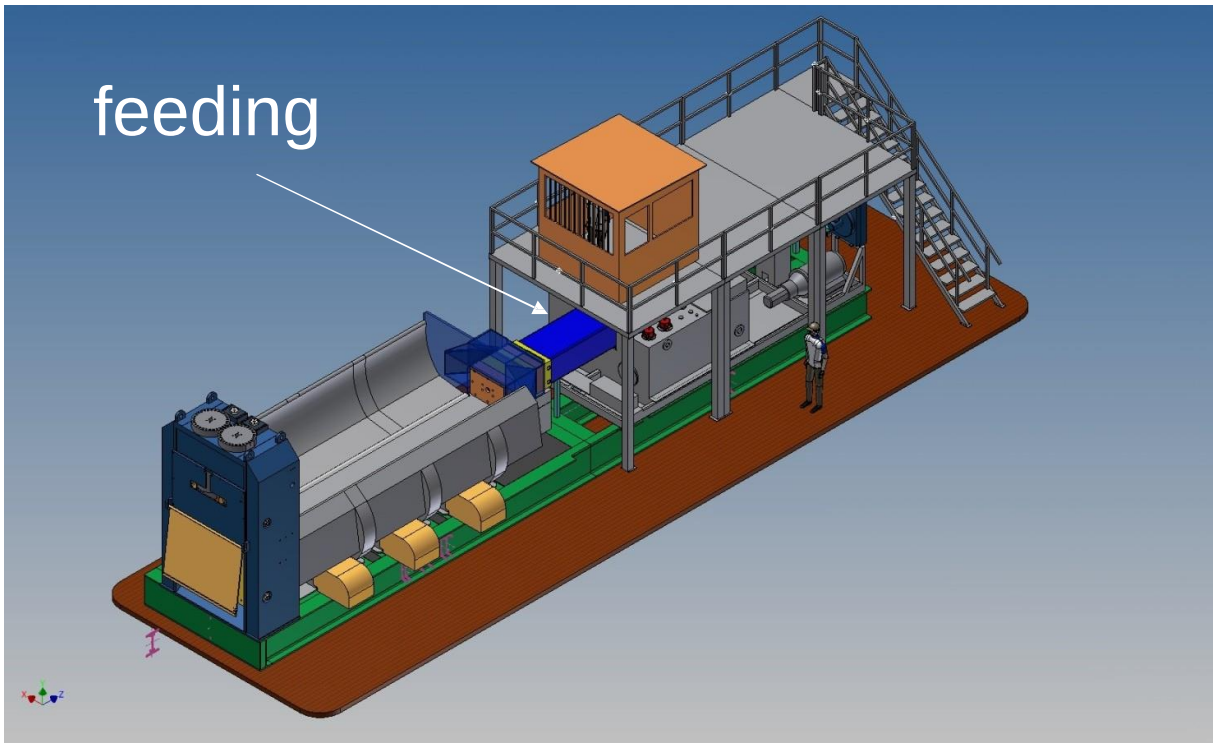

The rigid closed frame of the wings allows optimum absorption of the reaction forces when squeezing scrap.
The parts welded with submerged arc assure uniformity to the welds and high fatigue strength.

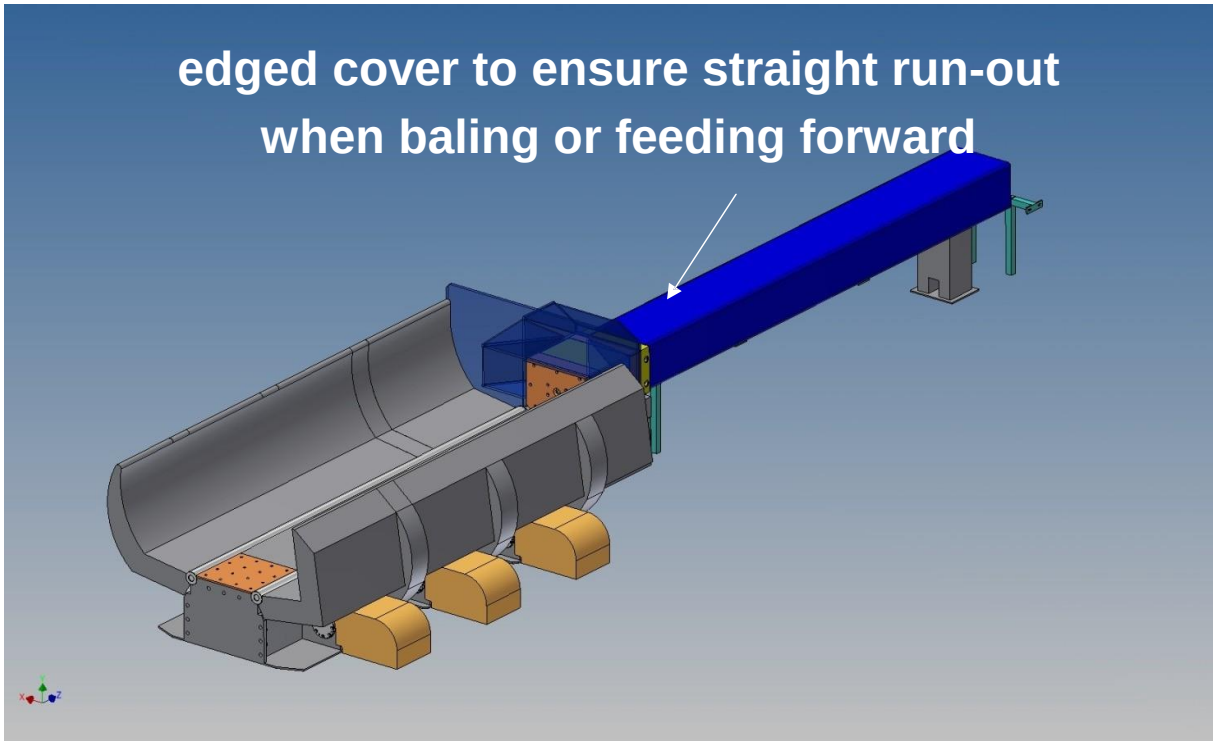

The honeycomb structure, closed with an outside sheet of wear resistant steel with high elastic limit, offers maximum torsional elasticity and resistance to forces applied eccentrically when compacting.

# hinges and squeezing box internal conditions after 9000 working hours

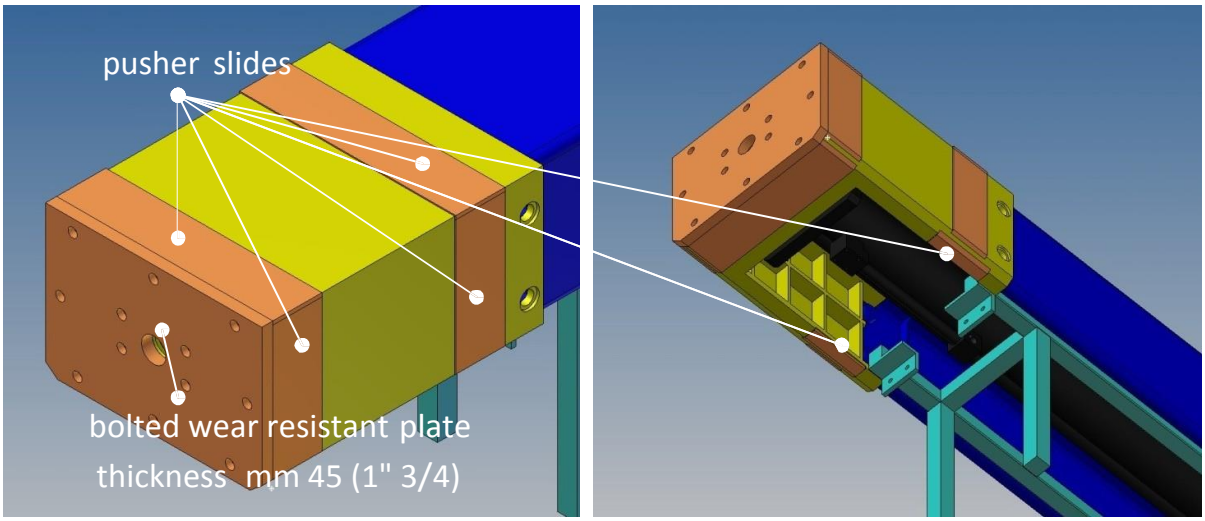

the parts of the hinges and welds where the wear is critical are hard-faced surfacing anti-wear protective coatings with a welding robot machine, to increase the service life and to reduce maintenance costs and downtime.

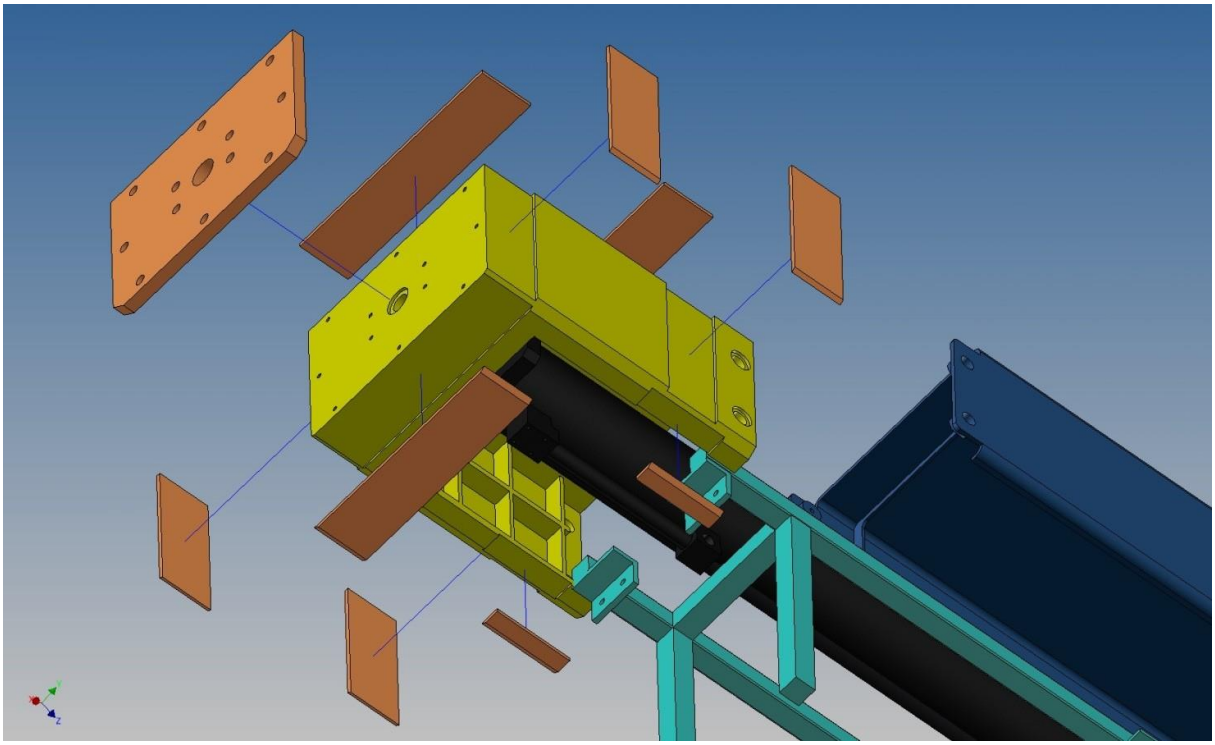


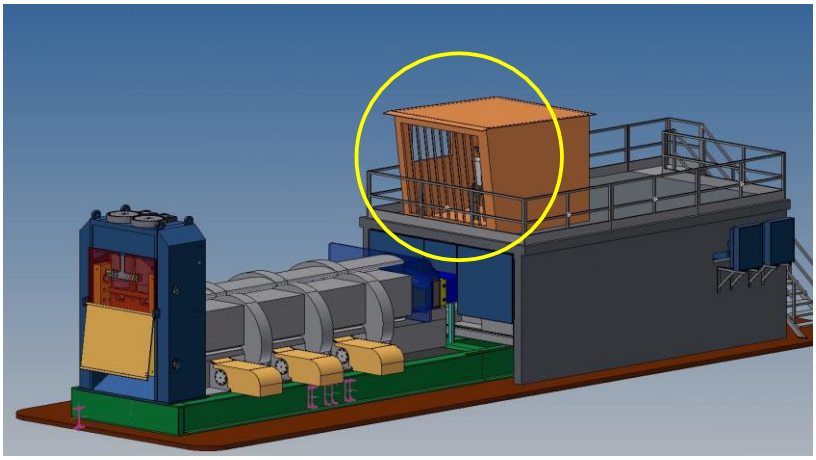

feeding

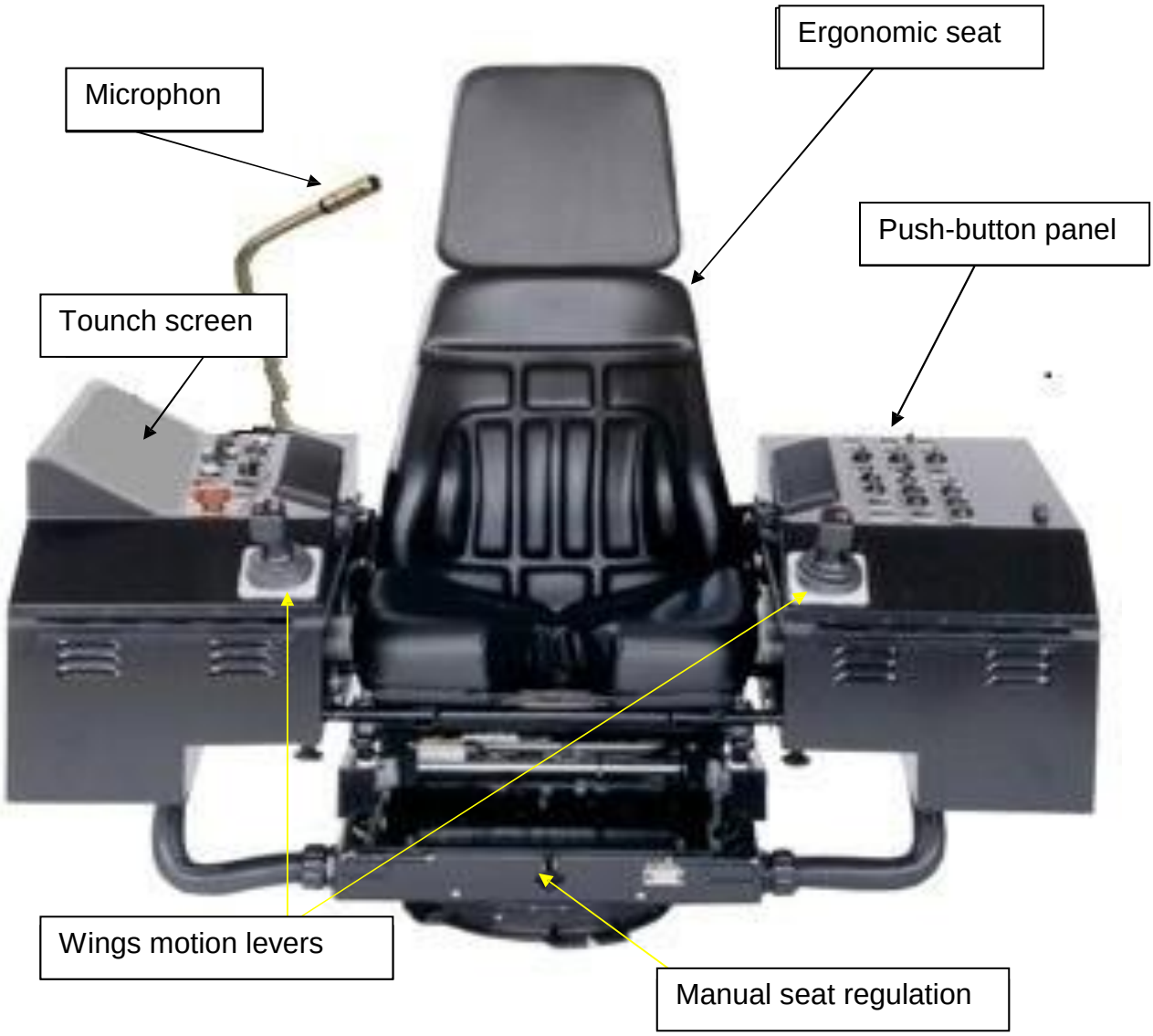

edged cover to ensure straight run-out
when baling or feeding forward

# pusher slides and liners

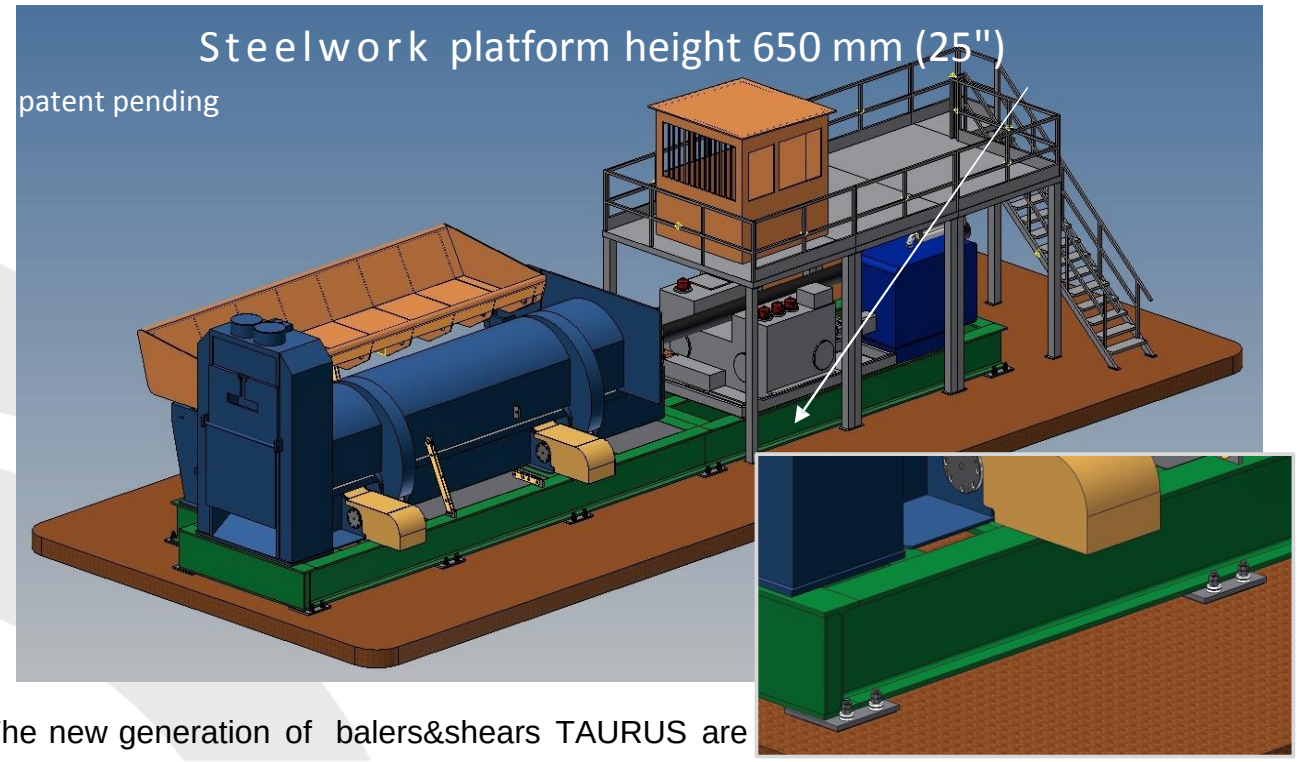





Ergonomic seat
Microphon
Push-button panel
Tounch screen
Wings motion levers
Manual seat regulation

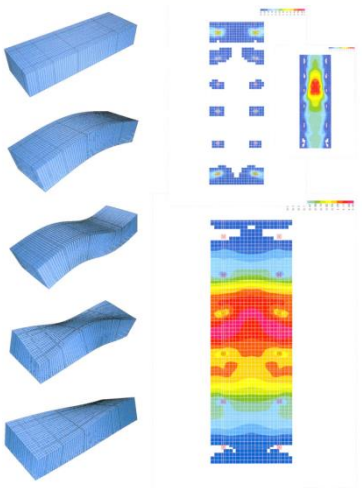
# NO FOUNDATION REQUIRED




The new generation of balers&shears TAURUS are set up on a steelwork platform that allow:

- assembling time reduced
- vibrationless
- pipes protection
- flex pipes and "wings" cylinders guards
- reduced foundation costs
- machine assembled on firm level concrete base
- machine easy to install and re-position

If the machine is firmly anchored to his foundation the results is a system that is free to vibrate and that includes the machine mass and the foundation mass.
The additional mass of the foundation block results in a reduction in the vibration amplitudes when compared to those without foundation.
The additional torsional rigidity due to the foundation block has a positive effect on the quality and reliability of the machine. The vibration amplitudes decrease as the foundation mass increases. However, this effect has a limit , on the one hand because the foundation soil cannot withstand an infinite load, and on the other hand because the costs of foundations increase exponentially with the increase in mass.



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TAURUS balers&shears are set up on a steelwork platform and placed on a firm level concrete base.

The steelwork platform with vibration-damping plates system **«VDP»** developed by TAURUS is consisting of a mass (steel-platform) integral with the vibrating mass (machine) forming a single unit placed on self-aligning pads coupled with vibration- dumpers.

The system (machine and **«VDP»** as a whole) is decoupled from foundation soil that is limited to a reinforced-concrete floor level needed only to hold the weight of the system.

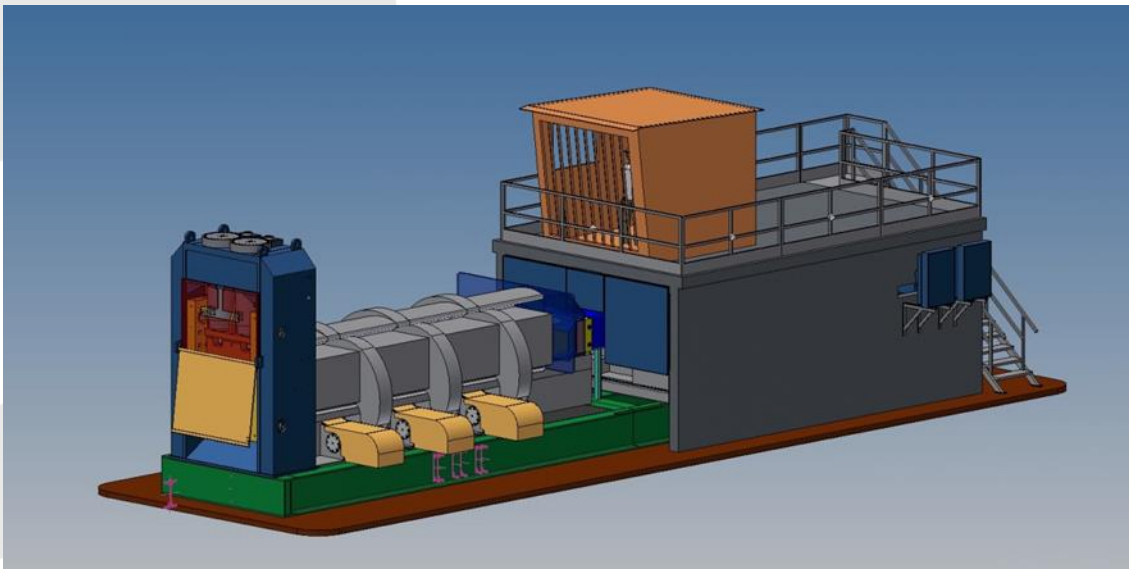
The incorporation on **«VDP»** of an engineered vibration-damper is for achieving the best possible vibration-isolation of the dynamic forces acting on the soil. Vibration- dampers of **«VDP»** have been selected and developed for the scrap-shears' specific application, for high static and dynamic forces and for the leveling stability.

At the same time the positive effect on quality and reliability of the machine due to the torsional rigidity of the steel-platform is fully maintained.

The steelwork platform incorporates also the components of the machine (pipes, hydraulic unit, ...) so as to intercept and cut the vibrations' run.

Overall steelwork platform is more economical if compared with traditional rigid-base foundation.

**«VDP»** is maintenance-free for the entire working life of the machine.



**… since 1963! Years of experience… and more**

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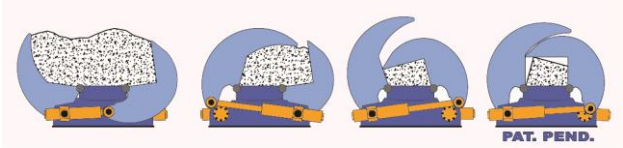
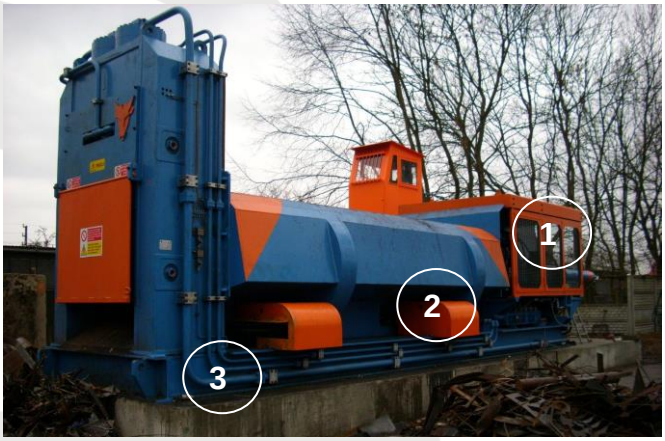
## TAURUS BLULINE SHEARS STANDARD COMPONENTS

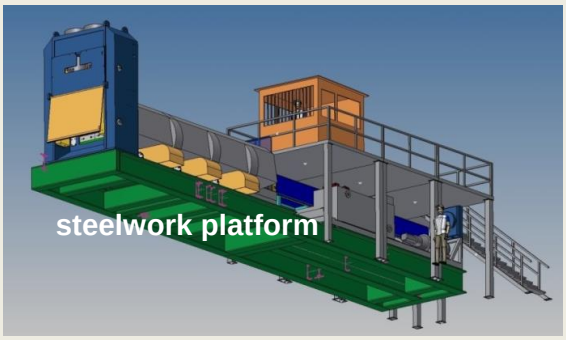



Overstroke on each wing (patent pending) to maximise density and minimise ware in the squeeze box.




**1- Hydraulic unit protection**
**2- cylinder guards**
**3- steelwork platform**

**no concrete foundations required if machine equipped with steelwork platform**

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| | |
|---|---|
|  | **Automatic lubrication system**<br><br>Shear's guides are automatically lubricated with a dedicate system provided with grease tank and related pump. |
|  | **Double cutting cylinder and prismatic guides**<br><br>The proven prismatic guides of our blade slides and the correct dimensions of the guides surfaces combined with the double cutting cylinders reduce the wear and ensure reliable cutting operation.<br>The guide coupling is made from hardened steel and plastic, this solution permits foreign bodies to become embedded in the plastic and thus cause no further damage to the guides. Plastic, furthermore, has excellent emergency running properties.<br>Wear on the guides is compensated acting on eccentric pins. |
|  | **Chevron sealing rings**<br><br>This seals are designed with preloaded radial lips to provide good sealing results. They are very robust and insensitive to sealing surface finish.<br>Chevron seals are especially suited to applications where there is a risk of damage and contamination. |
|  | **Liners**<br><br>All parts in the areas where wear is critical are made of highly wear-resistant steel. Wherever it is possible, the wear liners are bolted on to allow simple replacement. |



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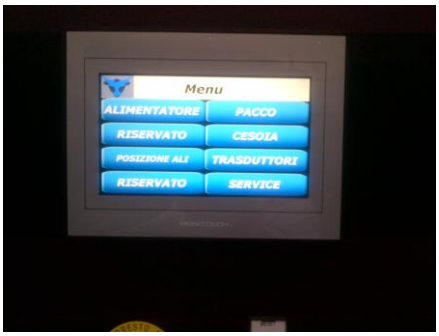
| | |
|---|---|
|  | **CSA:** Cylinders Shock Absorber<br><br>The shock absorbers:<br>- reduce the vibrations generated while the wings are squeezing scrap<br>- control the speed of the wings during closing and opening cycle |
|  | **ICS:** Intelligent Control System<br><br>The Intelligent Control System constantly monitors and optimizes the squeezing and cutting process.<br>The control system minimizes downtimes, maintenance can be planned in good time and performed in a labor-saving manner.<br>Numerous programs for different types of scrap can be selected at the push of a button, for instance: full stroke, partial stroke, relative stroke and, of course, baling. |
|  | **Touch sreen**<br><br>Different functions can be selected through touch screen applied on control panel or in machine's cabinet. |
|  | **IDS:** Inductive Distance Sensors<br><br>This solution is used to detect the forward and backward stroke of the pusher cylinder instead of conventional proximity or mechanical switches, to avoid setting and damage from pieces of scrap falling from trucks or cranes. |



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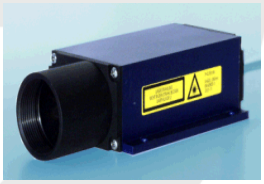
| | |
|---|---|
|  | **KNEE** (patent pending)<br><br>A toggle device with rotary encoder is used to check the position of the stroke and overstroke of the wings.<br>This device avoids the closing overload, **which is the reason of the wrong closing position of the wings.** The rotary encoder, guarded and **indipendent**, avoids the consquences due to the in-cylinder linear position sensors easy to damage and difficult to service and to replace. |
|  | **EPS:** External Position Sensors<br><br>This system to measure the stroke, is used in the clamp and shear cylinders to reduce the cutting working cycle. Position monitoring is made via non-contact sensors to avoid usual proximities or mechanical switches. This solution also avoids the consquences due to the in-cylinder linear position sensors easy to damage and difficult to service and replace. |
|  | **Laser to monitor cutting length**<br><br>The pusher cylinder can be monitored by a laser system. This constant monitoring of the positions guarantees the cutting length. |

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## TAURUS BLULINE SHEARS <u>OPTIONAL</u> COMPONENTS

| | |
|---|---|
|  | **Loading hopper**<br><br>To reduce loading time operations. Hopper box in wear-resistant steel with n. 2 lifting cylinders. |
|  | **Remote control**<br><br>Different models are available.<br>Possible to provide remote control with cutting length setting. |
|  | **Cabin with platform, stairs and rails**<br><br>Machines can be equipped with different cabins. Depending on machine's length, n.1, 2, 3 or 4 platforms can be supplied. |

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| | |
|---|---|
|  | **VDP:** Vibration Damping Plates<br><br>The Vibration Damping Plates developed by TAURUS consist of self-aligning pads made of a special polymer which are integrated within the steel base frame to minimize vibrations. Note: a steel work platform must be present if the vibration damping plates are requested. |
|  | **Lifting jacks**<br><br>For compatible models, n. 4 lifting hydraulic jacks can lift machines up to 1100 mm . |
|  | **Cold climate kit**<br><br>This solution is used to keep hydraulic oil with a temperature compatible with circuit's components. The system includes a dedicate hydraulic oil tank, thermostat and pressure switch. |
|  | **Maintenance safety kit**<br><br>Includes tools and equipment to prevent the accidental closing of shears and other hydraulic components during maintenance checks. |

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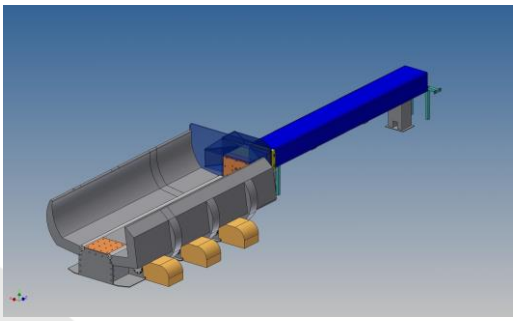
|---|---|
|  | **EPC:** Edged Pusher Cylinder protection<br><br>Ensures straight run-out when baling or feeding. |
|  | **SWP:** Serrated Ware Plate<br><br>A plate with a special profile can be fitted in the bottom of the entire length of the squeeze box. The special profile prevents jamming from wires and/or rebar while the screw in design allows for easy replacement when warn. The SWP´s are constructed of ware resistant Hardox steel. |
|  | **Noise reduction system**<br><br>Provides noise reduction emissions with the application of sound proof panels in the engine and pump area. |

# **TAURUS** …what else!

BLULINE REDLINE SASCOLINE

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