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QUOTATION FOR SUPPLY

TRANSVERSE CUTTING LINE FOR STAINLESS STEEL

2000x2-6mm



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® Our company is a stable and reliable enterprise with a high growth potential and unique competencies. INSTEEL designs and supplies a wide range of products including integrated process lines and equipment dedicated to the sheet metal and steel strip processing

sector. Our company combines new technologies with many years of experience contained in the company's know-how, originating from more than 20 years of history that we have continued in a new quality since 2021.

Thanks to our qualified staff and extensive manufacturing facilities, we are able to cope with even the most challenging tasks. Our lines are characterised by a high degree of automation and effective integration of functionally diverse technological processes.

We owe the creation of INSTEEL to the partnership between RStechonology, Instal-Inox and Inmet, which have carried out many innovative projects over the years to optimise and develop production processes combining knowledge and experience in stainless steel and construction of steel processing lines.

WE MANUFACTURE AND SUPPLY:

- ✓ process lines and equipment for cold profiling of steel sheets and strips,
- ✓ universal lines for shaping bent and perforated components,
- ✓ process lines and equipment for longitudinal cutting of steel sheets and strips,
- ✓ process lines and equipment for transverse cutting of steel sheets and strips,
- ✓ feeding lines for presses, also lines integrated with the press, mobile lines for the production of large-size tanks and vessels,
- ✓ tanks and vessel production lines,
- ✓ coil packing lines,
- ✓ ironwork installations,
- ✓ specialist technological equipment intended for a wide range of clients,
- ✓ modernisation, service and maintenance of process lines



Ladies and gentlemen,

INSTEEL Sp. z o.o., a Polish manufacturer of equipment and process lines for steel processing, offers your enterprise the opportunity to purchase the readily available transverse cutting line for stainless steel 2000x2-6mm. **The line is in the INSTEEL stock, so the date of availability for installation has been shortened to 30 days!!!** The line offered is a high-quality INSTEEL product dedicated to stainless steel processing companies, which will allow optimisation of production processes and independence from external supplies, ensuring flexibility in planning and rapid response time in unforeseen situations. The line offered complies with all safety standards required by applicable directives, confirmed by the **CE declaration of conformity and 12-month full product warranty (24-month warranty available at a surcharge)**. Robust and thoughtful solutions based on many years of experience will allow long-term and trouble-free operation of the line. We encourage you to take a look at the detailed specification and consider purchasing our product with a view to your company's development!



1. TRANSVERSE CUTTING LINE FOR STAINLESS STEEL 2000x2-6mm – SETUP

The offer contained in this prospect includes the supply of INSTEEL lines for uncoiling and transverse cutting of stainless steel folded in coils in accordance with the following specification.

The current line setup allows the start-stop line operation system with a stationary shear and picking up of individual sheets from the discharge conveyor. As part of an extension, it is possible to extend the line with an automatic sheet stacking module improving efficiency and maintenance-free operation of the line.

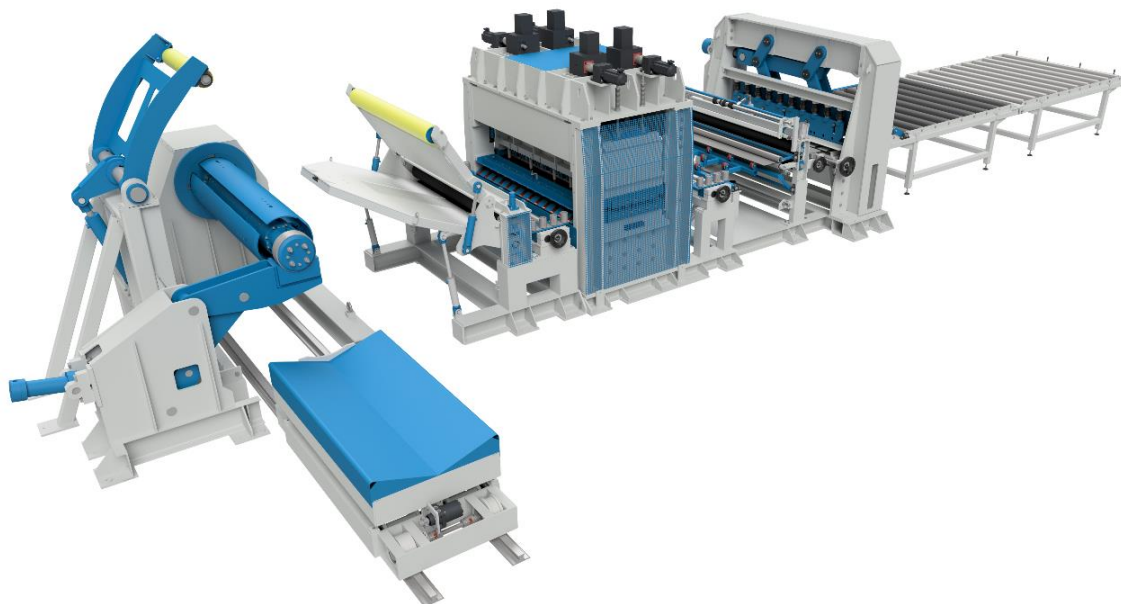


Fig. 1-1 – Transverse cutting line for stainless steel 2000x2-6mm, current setup.

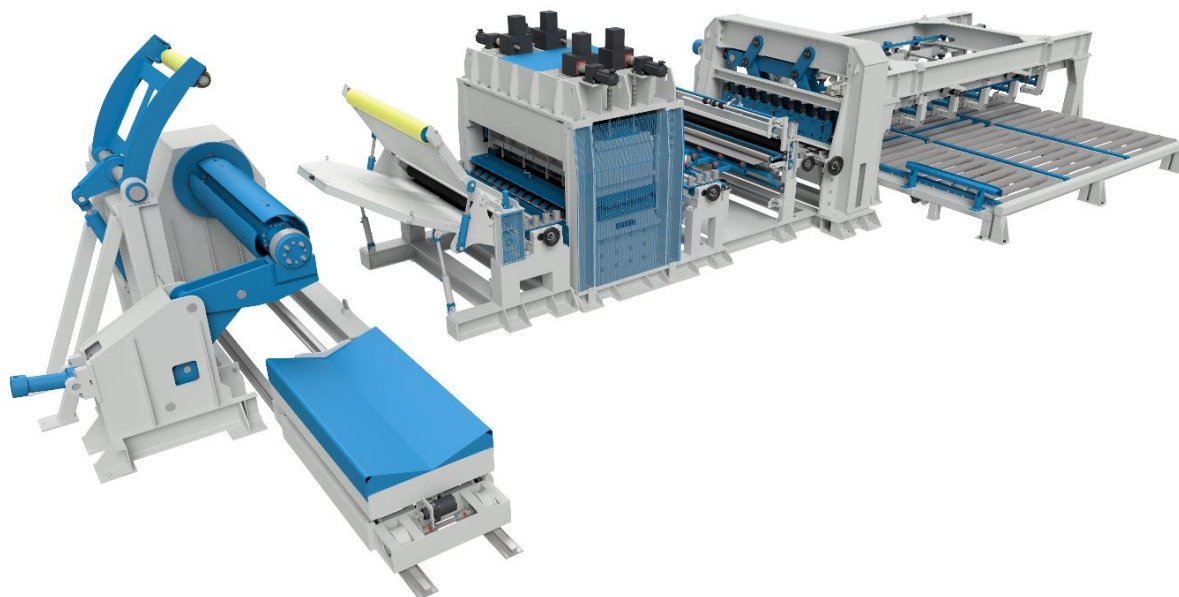


Fig. 1-2 – Transverse cutting line for stainless steel 2000x2-6mm, version extended with an automatic stacking module.

2. SCOPE OF DELIVERY

The line offered includes the following equipment together with applicable documentation and service package:

I DOCUMENTATION

- a) Assumptions for line foundation and media supply 1 set
- b) Machine Documentation in Polish..... 1 set
- c) CE Declaration of Conformity 1 set

II DELIVERY

- a) Strip uncoiler 7.5 t..... 1 set
- b) Loading table 7,5 t..... 1 set
- c) Inlet and guide system..... 1 set
- d) Strip straightener..... 1 set
- e) Double-sided folding band system 1 set
- f) Stationary transverse shear..... 1 set
- g) Segmented outlet transporter..... 1 set
- h) Hydraulic system 1 set
- i) Pneumatic system 1 set
- j) Power supply and control system 1 set
- k) Safety system..... 1 set

III SERVICES

- a) Installation and commissioning at the Customer's plant..... 1 set
- b) Training in the operation of equipment..... 1 set

IV ADDITIONAL OPTIONS

- a) OPTION 1 – Line extension with an automatic sheet stacking 1 set

3. FEEDSTOCK

The line offered is intended for the operation of feedstock of the following parameters:

Material.....	stainless steel according AISI 304, 316Ti, other stainless steels
Tensile strength R_m AISI 304	max. 680 MPa
Tensile strength R_m AISI 316	max. 750 MPa
Yield stress R_e (R_{p02}) AISI 304	max. 280 MPa
Yield stress R_e (R_{p02}) AISI 316	max. 280 MPa
Feed roll accuracy.....	± 1.0 mm
Sheet thickness.....	2.0 – 6.0 mm
Coil width	min. 1000 mm / max. 2000 mm
Outer diameter of the coil.....	max. 1200 mm
Inner diameter of the coil.....	approx. 508 mm
Coil weight max.	7 500 kg

4. PRODUCTION RANGE

The line is intended for the manufacture of steel sheets from feedstock described in item 2 of the offer in the following scope:

Sheet thickness min. 2.0 mm / max. 6.0 mm
Sheet width min. 1000mm / max. 2000 mm
Sheet length min. 1000 mm / max. 6000 mm

5. EQUIPMENT SPECIFICATION

5.1. STRIP UNCOILER 7.5 t

The uncoiler allows uncoiling of feed strip, clamping and locking the inner diameter of the feed coil in the uncoiler holder is carried out hydraulically. The diameter of the mandrel is adapted to install feed coils with an internal diameter of approx. 508 mm. The uncoiler body was made as a welded structure mounted on the frame. Expansion shaft bearings and drive components are mounted in the body, the uncoiler drive is a gear motor. Tension torque uncoiler control. Uncoiler equipped with a pressure roller.

Type.....single-mandrel uncoiler
Design..... with hydraulic expansion mandrel
Outer diameter of the coil.....max. 1200 mm
Maximum load capacity 7 500 kg
Main drivegear motor



Fig. 5-1 – Strip uncoiler 7.5 t

5.2. LOADING TABLE 7.5 t

The loading table facilitates loading coils onto the uncoiler. It consists of a carrier frame and a supporting

part shaped in a manner preventing the coil from rolling.

Design shear
 Load capacity.....7 500 kg
 Drivehydraulic cylinders

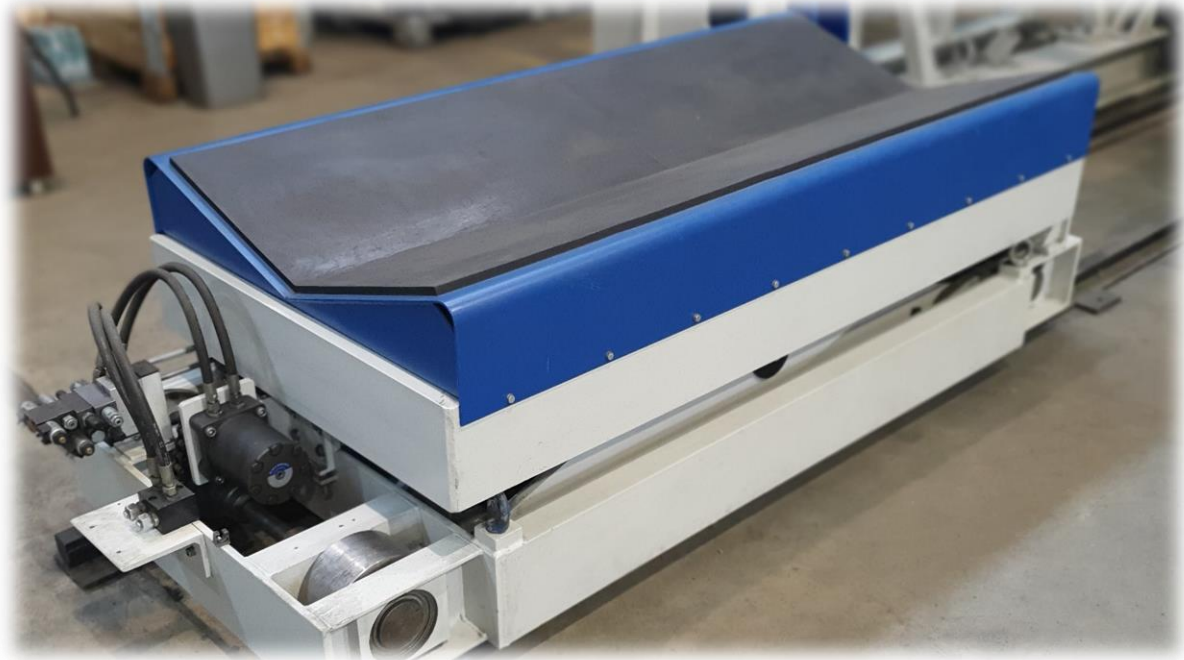


Fig. 5-2 – Loading table 7.5 t

5.3. INLET AND GUIDE SYSTEM

The inlet and guide system is mounted on a frame made of steel profiles. Made in a movable table system with a pressure roller to facilitate the introduction of the beginning of the strip and guide rollers. The construction and control allow introduction of sheet from the operator's console. The inlet system is equipped with a trailing shaft kit.

Design.....tilting inlet table with pressure roller and centring systems
 Strip routingcentring systems adjustable to the line axis
 Design of centring systems..... roller tracks with manual width setting
 Number of strip routings present..... 2, one in front of the straightener and one behind it
 Setpointmin. 950 mm / max. 2050 mm
 Design of the lower trailing shaft fixed
 Design of the upper trailing shaft.....hydraulically adjustable
 Shaft covering.....polyurethane
 Trailing and straightening shaft drive gear motor

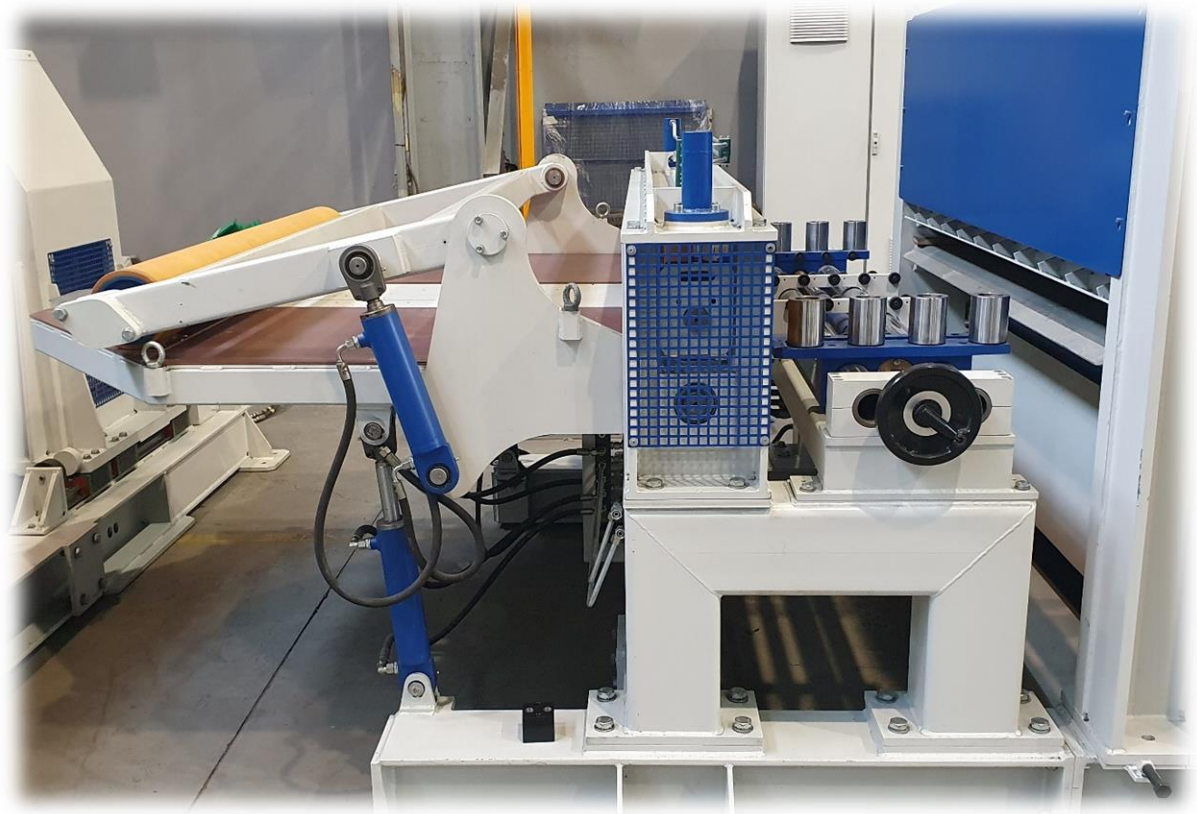


Fig. 5-3 – Inlet and guide system

5.4. STRIP STRAIGHTENER

The straightener consists of a rigid steel frame composed of plate structures and a cassette design of straightening rollers. The lower part of the cassette is fixed, while the upper part is adjusted by mechanical actuators. The diameter and pitch of the rollers have been optimised in a way that allows straightening the entire thickness range.

Strip width	min. 1000 mm / max. 2000 mm
Strip thickness	2.0 – 6.0 mm
Number of straightening rollers top.....	5
Number of straightening rollers bottom	6
Protection against bending of the roller shafts	supporting

In order to achieve the highest quality of parameters of sheet flatness for feed thicknesses of less than 2mm, it is recommended to purchase an additional straightening cassette dedicated to precise straightening of sheets in the range 0.5-2 mm together with quick-change accessories. The straightener is adjusted to the exchange system design.

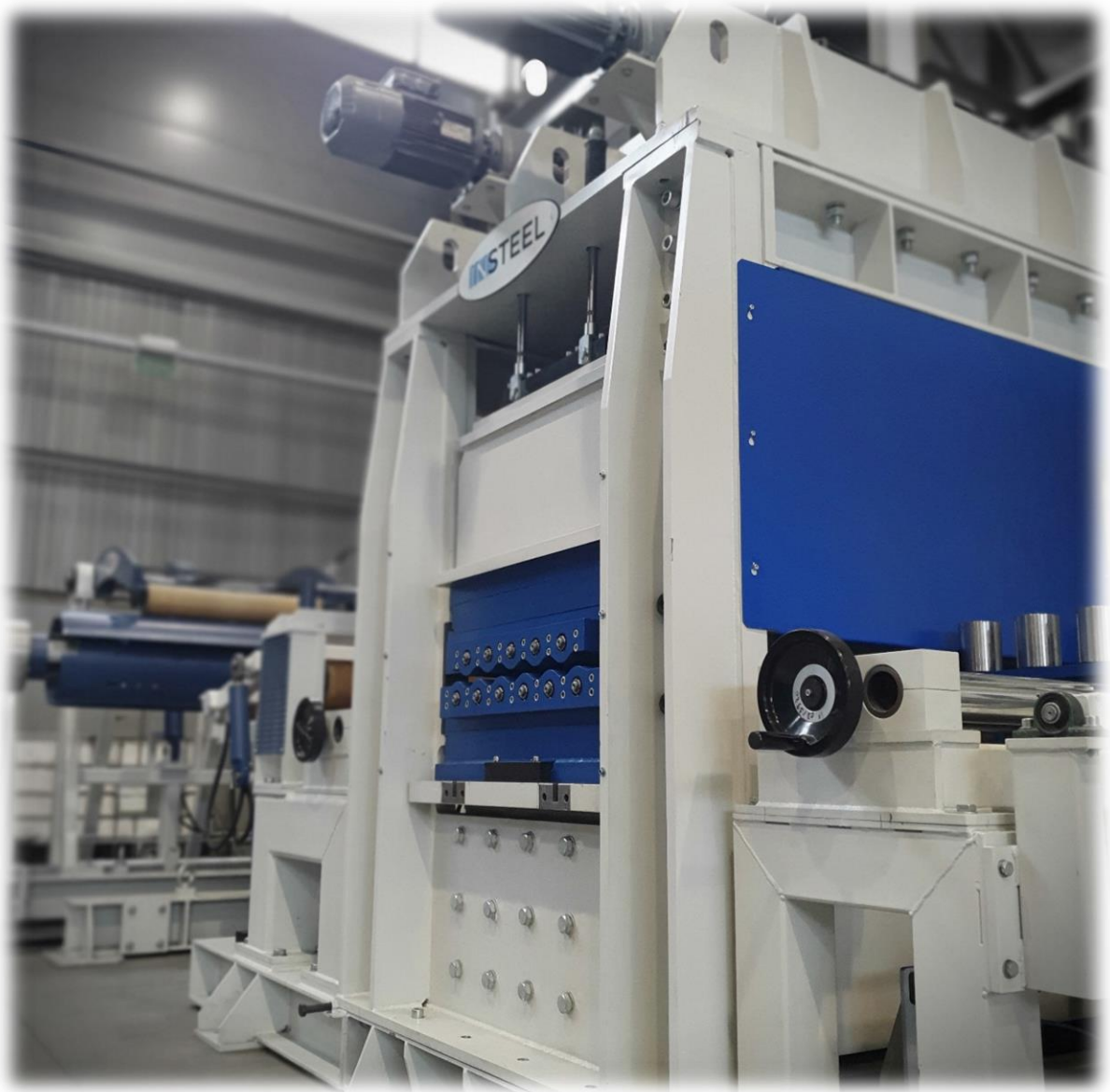


Fig. 5-4 – Strip straightener

5.5. DOUBLE-SIDED FOLDING BAND SYSTEM

The controlled system of trailing and pressure shafts ensures high quality of the applied film without tears or corrugations. The design allows quick change of the film roller.

Type..... double-sided,
 Film width..... min. 1000 mm / max. 2000 mm,
 Sealing the beginning of the film..... manual
 Automatic cutting..... yes
 Draft rollers pressure pneumatic



Rys. 5-5 – Double-sided folding band system

5.6. TRANSVERSE SHEAR

The in-line transverse shear is dedicated to the start-stop line operation mode, i.e. cutting after the strip has stopped. The design of the shear ensures high accuracy and repeatability of cutting. The shear's design and routings ensure stability and maintenance of the set cutter gap. The lower shear beam is fixed, while the upper movable beam. The upper beam is driven by a hydraulic cylinder.

The shear features a manual slot adjustment system regulated depending on the feed thickness.

The shear is intended for:

- a) Reference cutting at the beginning of the production batch,
- b) Cutting off damaged coils at the beginning and end of the coil – technological shear feature
- c) Cutting sheets in production mode.

Shear design stationary,
 Upper blade drive..... hydraulic cylinders,
 Strip thickness approx. 2.0 – 6.0 mm
 Strip width min. 1,000 mm / max. 2,000 mm
 Operation modestart - stop
 Cutting blades segmented



Fig. 5-6 – Transverse shear

5.7. SEGMENTED OUTLET TRANSPORTER

The outlet transporter designed in a segmented split system. The drive system applied enables picking up of produced sheets across the range. Frames made of steel profiles.

Transporter type	roller
Number of segments.....	2
Total length of transporter.....	6,000 mm
Width.....	2,000 mm
Strip level.....	approx. 1,000 mm
Picking up of sheets.....	manual (e.g. pneumatic gripper) or application for a rolling mill

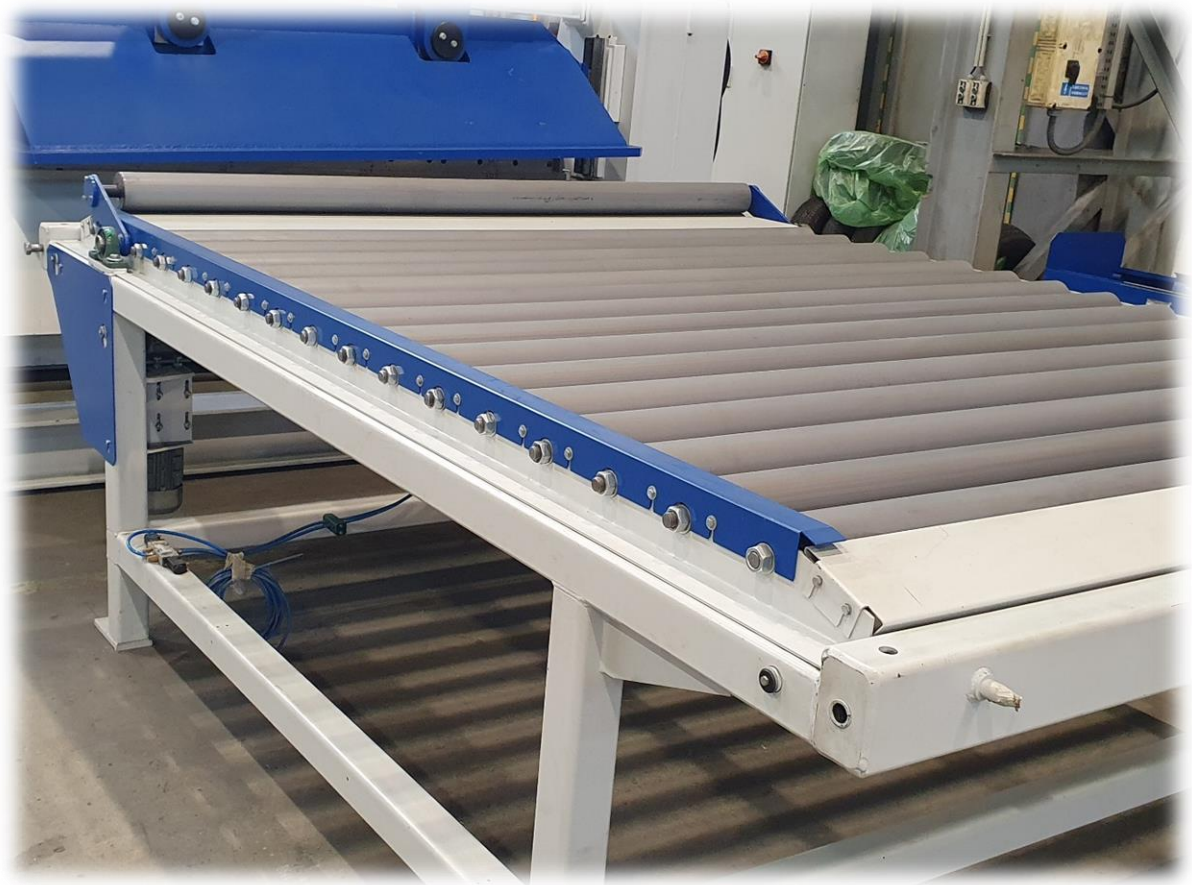


Fig. 5-7 – Segmented outlet transporter

5.8. OPTION 1 – LINE EXTENSION WITH AN AUTOMATIC SHEET STACKING MODULE

As part of a setup extension, it is possible to adjust an automatic sheet stacking module. This combination of lines allows the production of sheets in an automatic cycle. After forming the entire package according to the production programme, the pallet with the sheets is transferred to the package receiving conveyor, where it is manually strapped, packed for transport and collected by a forklift/crane.

Sheet width min. 1000mm / max. 2000 mm
 Sheet length min. 1000 mm / max. 6,000 mm
 Maximum package weight 5000 kg



Fig. 5-8 – Automatic sheet stacking module, design example

5.9. HYDRAULIC SYSTEM

The hydraulic system consists of a hydraulic power supply equipped with all necessary components used to operate the line actuators. The hydraulic oil level and temperature are monitored by the line control system. The devices equipped with hydraulic components are supplied from the power supply. Control voltage of valves24VDC.

5.10. PNEUMATIC SYSTEM

The devices equipped with pneumatic elements are supplied from the supply bus air connection.

Operating pressure..... min 8 bar
 Required purity class 3.4.3 (according to ISO 8573-1)
 Required filtration accuracy 5 µm
 Permissible oil content 1 mg/m³
 Dew point 3° C

5.11. POWER SUPPLY AND CONTROL

The line is powered from the IP54-rated control cabinets, in which the following are built:

- electrical protections – main circuit breakers, overcurrent switches, motor circuit breakers and phase control relays,
- power supplies and separation transformers,
- control equipment – contactors and relays,
- inverters and soft starters,
- PLC input and output modules,
- router for remote access.

All gearmotors, servomotors and measuring devices are powered by shielded cables. Between the control cabinet and the line, we prefer the construction of cable ducts in which electrical and compressed air systems are located. On the line, the systems are distributed in cable trays and cable guides. Each cable is uniquely marked, which facilitates identification during line maintenance. Control signals with a source in the line are connected to the I/O islands, which are located directly on the line. Multi-graph diagrams are provided each time.

Line operation control takes place from the operating panel integrated with all the line equipment, this panel allows displaying and setting selected production and technological parameters. The line's parametrisation is performed with a freely programmable controller.

Our lines are normally equipped with Internet connection to integrate with the Investor's network, which significantly facilitates maintenance procedures.

Design..... free-standing cabinet and control panel
Power supply..... 3x400VAC
Control voltage..... 24V DC

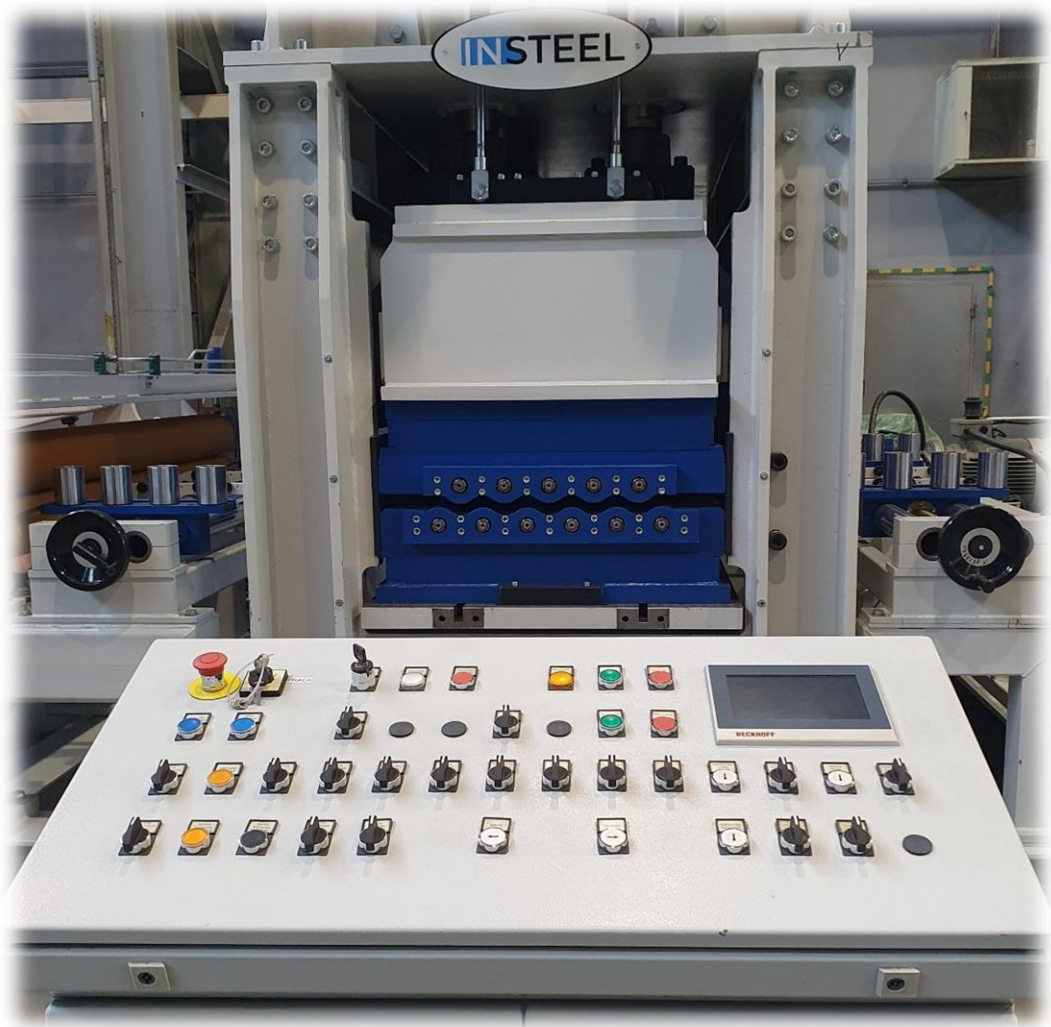


Figure 5-10 – Control panel

5.12. SAFETY SYSTEM

INSTEEL lines are designed and built to meet the highest CE standards. This results in the highest possible protection of operators on the one hand as well as easy access for service and regulation.

The complete safety fencing for the feeding line is made of mesh modules with electrically monitored doors. The system consists of the following elements:

- Fencing installed around the line limiting access to individual units,
- Safety controller.

Emergency switches are placed on all control panels and cassettes, which are used for emergency shutdown of the machine. Confirmation of safe state after emergency shutdown is done from a single location. At each monitored entrance to the machine (gates) there are cassettes to confirm the closing of the gate. Automatic operation is only possible when all gates are closed and none of the emergency stop switches is tripped.

5.13. INSTALLATION AND COMMISSIONING

As part of the comprehensive supply, INSTEEL provides performing line operation tests at the Contractor's plant before delivery to the Ordering Party and assembly and start-up of the line at the Ordering Party's production plant. As part of the conducted works, the Contractor shall also provide training in the current and operational maintenance of equipment.

6. WARRANTIES:

INSTEEL grants a warranty for the performed works and delivered equipment for a period of 12 months **(24-month warranty available at a surcharge)** from the date of signing the final acceptance report of the Ordering Party and provides warranty and post-warranty services and repairs. Warranties are granted provided that they are operated in accordance with the technical conditions specified in the operation and maintenance manual or resulting from general regulations in this respect.

Damage resulting from non-compliance with the instructions specified in the operation and maintenance manual will be removed at the expense of the Ordering Party. Consumables and tools and fast-wearing parts used during normal operation of equipment shall be supplemented by the Ordering Party on its own. INSTEEL guarantees the provision of post-warranty service after the end of the warranty period. The terms and conditions of the post-warranty service may be specified by the Parties on the basis of a separate contract.

Detailed terms and conditions of the warranty will be determined at the stage of preparing the contract.

6.1. WARRANTY RESPONSE

During the warranty period, INSTEEL shall immediately commence the removal of the defect/fault of the subject matter of the contract, i.e. within 48 hours from the date of notification (commencing the removal on the following working day).

7. DELIVERY EXCLUSIONS:

Within the scope of the Ordering Party, the following remains:

1. Before the installation of the equipment delivered by the Contractor, proper performance of foundation and preparatory works of the assembly installation site.
2. Transport and unloading of equipment at the Ordering Party's place of installation.
3. During the final assembly, the Ordering Party shall provide local transport means at its own expense enabling proper positioning of the equipment.
4. Provision of a compressed air connection.
5. Connecting the main power supply of the unit to the electrical system of the hall.

6. Free delivery of test materials to the Contractor's registered office.
7. Free provision of materials for start-up tests carried out at the Ordering Party's registered office.
8. Any other deliveries and services not included herein.

8. DELIVERY DATES:

The line offered in the basic version with a receiving transporter **is available within 30 days of order placement.**

The line's extension with an automatic sheet stacker resulting from option 1 is possible within 6 months of order placement.

9. PRICING CONDITIONS:

<u>Item</u>	<u>The object of delivery</u>	<u>Quantity</u>	<u>COST</u>
1.	TRANSVERSE CUTTING LINE FOR STAINLESS STEEL 2000x2-6MM IN THE BASIC VERSION	1 set	679 200,00 EUR
2.	OPTION 1 – SUPPLY OF A LINE WITH AN AUTOMATIC SHEET STACKING MODULE	1 set	+163 900,00 EUR

The specified delivery cost is a net amount and VAT in the statutory amount should be added to it.

The quoted cost of delivery is preliminary and subject to negotiation

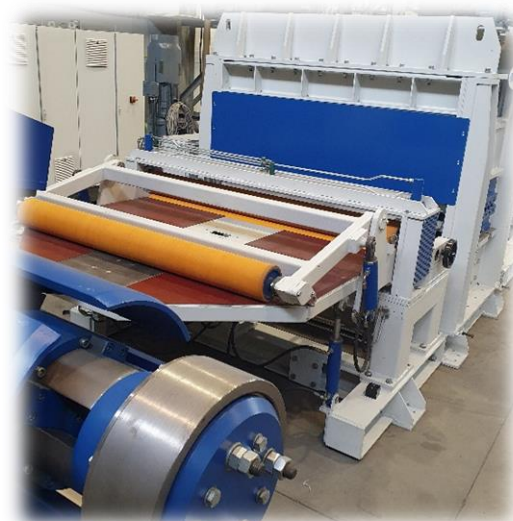
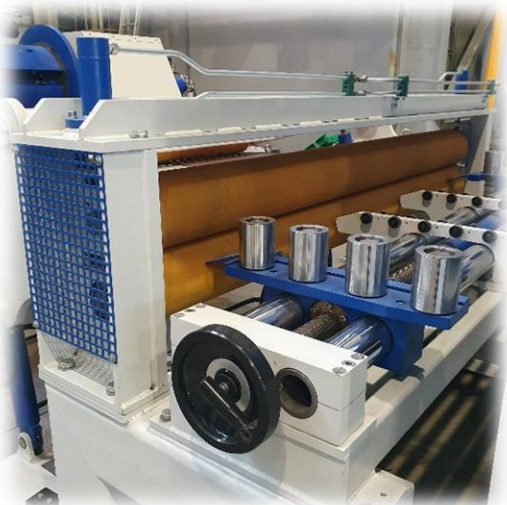
The presented bid and the cost of implementation of individual items and variants of execution is a preliminary technical and commercial proposal. It is possible to reconfigure and adjust individual components of the scope of delivery at the stage of further technical and commercial arrangements with the possibility resulting from price adjustment arrangements.

10. TERMS OF PAYMENT:

To be agreed.

11. NOTES:

1. The equipment covered by the deliveries shall remain the property of the Contractor until the Ordering Party has fully settled the payment obligations arising from the contract.
2. If it is necessary to temporarily store the equipment before installation, the Ordering Party is obliged to secure it. In such a case, the Contractor shall not be liable for damage to the equipment caused by improper storage.
3. Technical solutions provided by the contractor in the bid are subject to copyright protection and cannot be copied or made available to third parties without the consent of the contractor.



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