BEISCO

10 YEARS
2016 – 2026

Pro-modern & tailored solutions for rolling mills



Hot steel.
Cool heads.

ROLLING MILL EQUIPMENT · ENGINEERING · MANUFACTURING · REVAMPING · ERECTION · COMMISSIONING

We engineer what rolling mills run on.

Engineering, manufacturing and commissioning for rolling mills.

BEISCO was founded in Izmir in February 2016 by a team with **more than 30 years** of experience in the iron and steel industry.

We design, manufacture and commission technological plant equipment for **rolling mills**, for new lines and for revamping projects, in Türkiye and abroad.

For meltshops, we manufacture mechanical equipment to the customer's project.

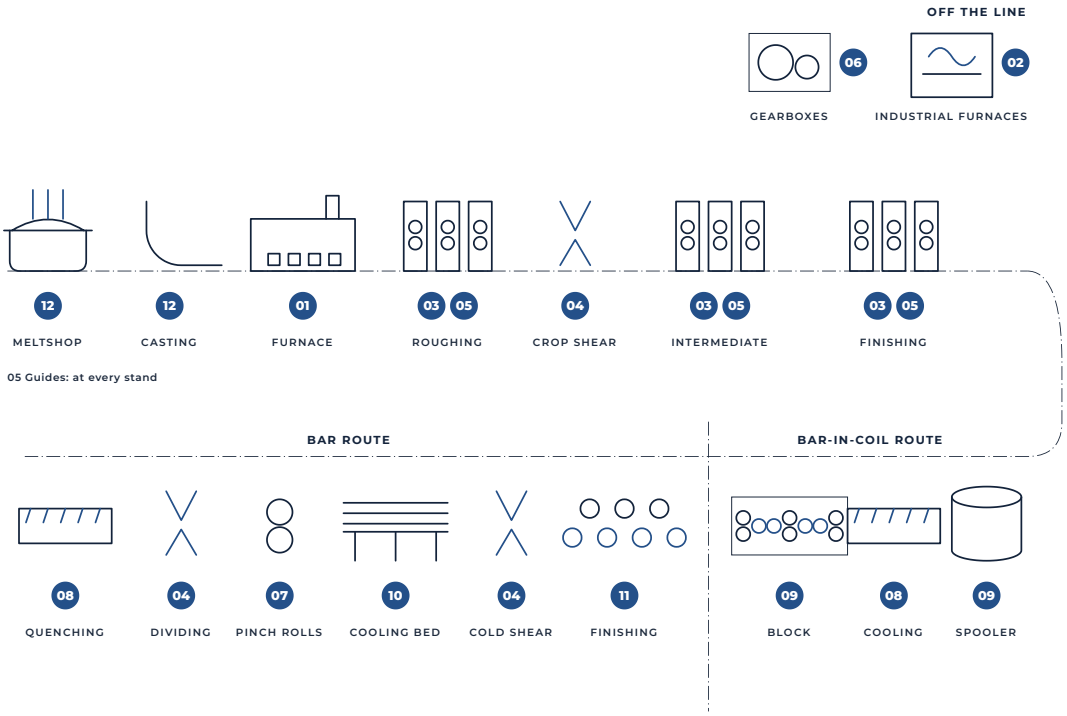
Our engineers and design team work with national and international partners, combining R&D with field know-how into what we call "pro-modern and tailored solutions": cost-effective, of high quality, and built around the mill they serve.

30+
Years of team experience in the iron and steel industry

2016
Founded in Izmir, Türkiye

20+
Countries with BEISCO references

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VISION

To become a **pioneer company** that continuously improves the methods applied in its fields of specialization, enhancing effectiveness and productivity in national and international markets, and **leads the sector**.

MISSION

To offer “pro-modern and tailored solutions” by always carrying the company **one step further** in terms of quality, trust, care, innovation and customer satisfaction.

OUR VALUES

Quality · Trust · Care · Innovation · Customer satisfaction

Quality is what we promise. These are the promises.

01 To offer products and services that fit the needs of our customers.

02 To ensure continuity of customer satisfaction.

03 To complete works on time with the contribution of all our employees.

04 To create a team spirit with our employees for continuous training, development and improvement.

05 To increase production and product diversity by using advanced technological systems.

06 To perform works that meet our goal of good, quality and safe products and services in domestic and international markets.

CERTIFICATES

ISO 9001:2015

Quality management system

Machinery and equipment manufacturing; engineering and consulting services for machinery and equipment manufacturing and installation; after-sales services; on-site assembly; procurement and sales within the scope of projects. KingCert · Cert. no. I1759996333Q

EN ISO 3834-2

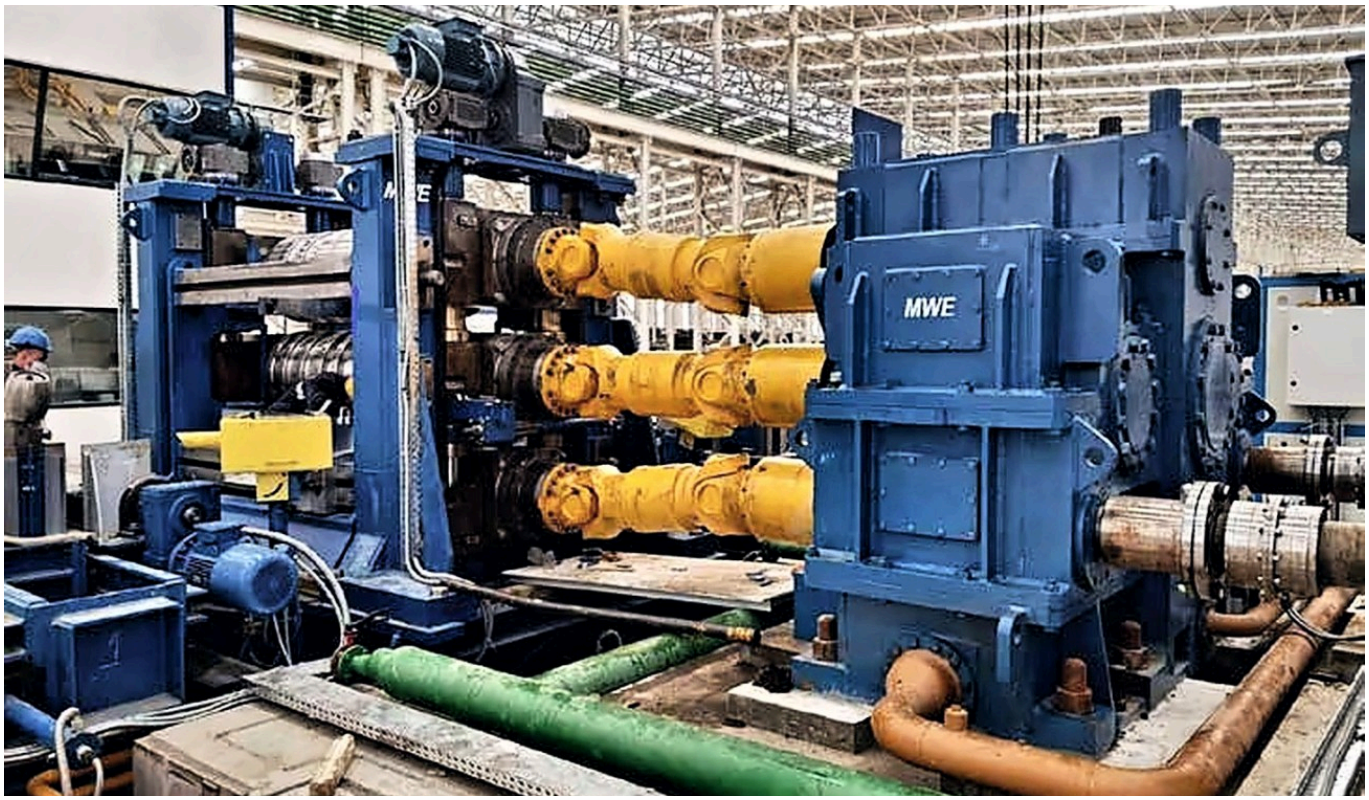
Welding quality requirements

Welded manufacturing of industrial machinery parts and equipment; steel construction manufacturing and assembly. TÜV AUSTRIA TURK · Cert. no. CAS-TAT-00228

Designed by either. Built by BEISCO.

MWE, based in Germany, is an engineering company for long product rolling mills: international plant construction and mechanical engineering.

The work runs both ways. MWE takes on a project and designs it; BEISCO manufactures it. Or BEISCO takes on the project and designs it, alone or with MWE, and manufactures it too.





01

Reheating furnace & furnace area mechanical equipment

BILLET FEEDING · CHARGING & PUSHING · WALKING MECHANISMS · DISCHARGING & REJECTING · DESCALER

The mill can only roll what the furnace delivers.

Before the first pass, every billet must arrive at the right temperature, in the right place, at the right moment.



A billet that leaves the furnace too cold loads the stands and rolls harder than they were designed for; one that leaves too late leaves a gap in the line. The furnace sets the rhythm for everything that follows.

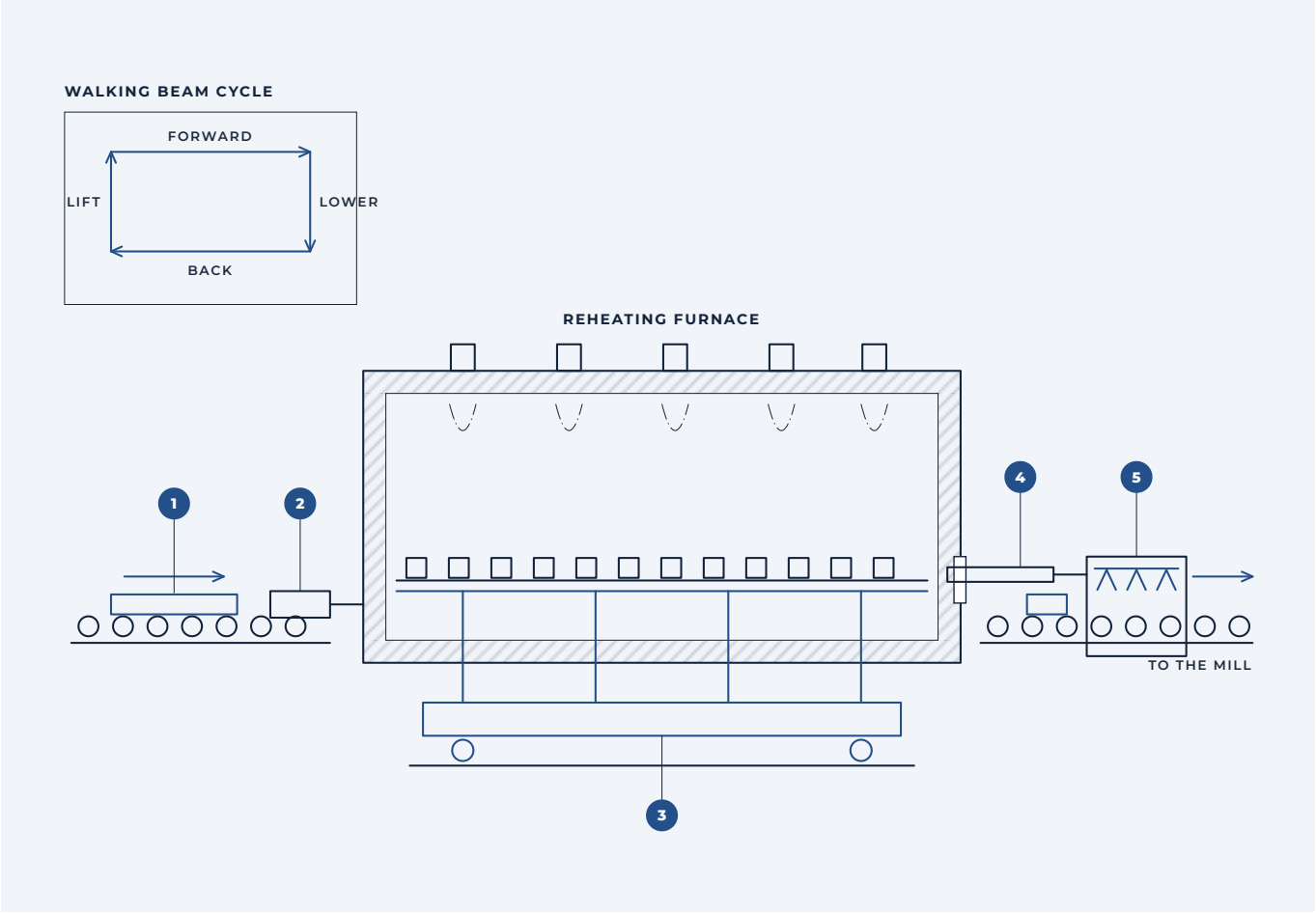
BEISCO designs and manufactures the reheating furnace and the equipment around it as one **coordinated system**: feeding, charging, pushing, walking mechanisms, discharging, rejecting and descaling, matched to your billet and your mill's rhythm. For new lines, and for furnaces already **in service**.

SCOPE

Reheating furnace
Billet feeding system
Billet charging & pushing system
Walking mechanism for WBFs & WHFs
Billet discharging & rejecting system
Pinch rolls
Descaler

Send us the billet size, the furnace type and the output you need. We will propose the furnace area.

A billet’s walk through the furnace.



Schematic of a walking beam furnace area. Not to scale.

1 Billet feeding
Billets arrive on the charging roller table, one at a time, in the order the mill needs them.

2 Charging & pushing
The charging device places each billet in the furnace.

3 Walking mechanism
Walking beams lift the billets, carry them one step forward and set them down again.

4 Discharging & rejecting
The billet leaves at rolling temperature; one that should not go to the mill is taken out of the line.

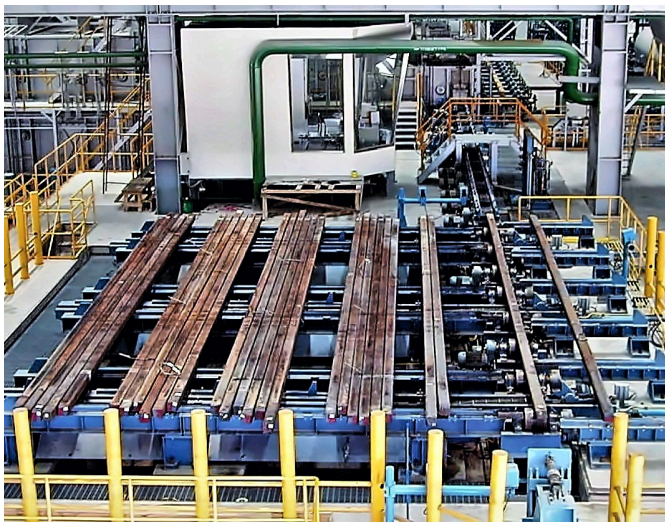
5 Descaler
Water at high pressure removes the scale before the first pass.

FIELD NOTE

Lift. Forward. Lower. Back. The walking beam repeats the same four moves all day, and the billets only ever go one way.

Reheating furnace area













02

Industrial furnaces

DESIGN · STEEL CONSTRUCTION · COMMISSIONING

Heat, held exactly where the process needs it.

Not every furnace stands in front of a rolling mill.



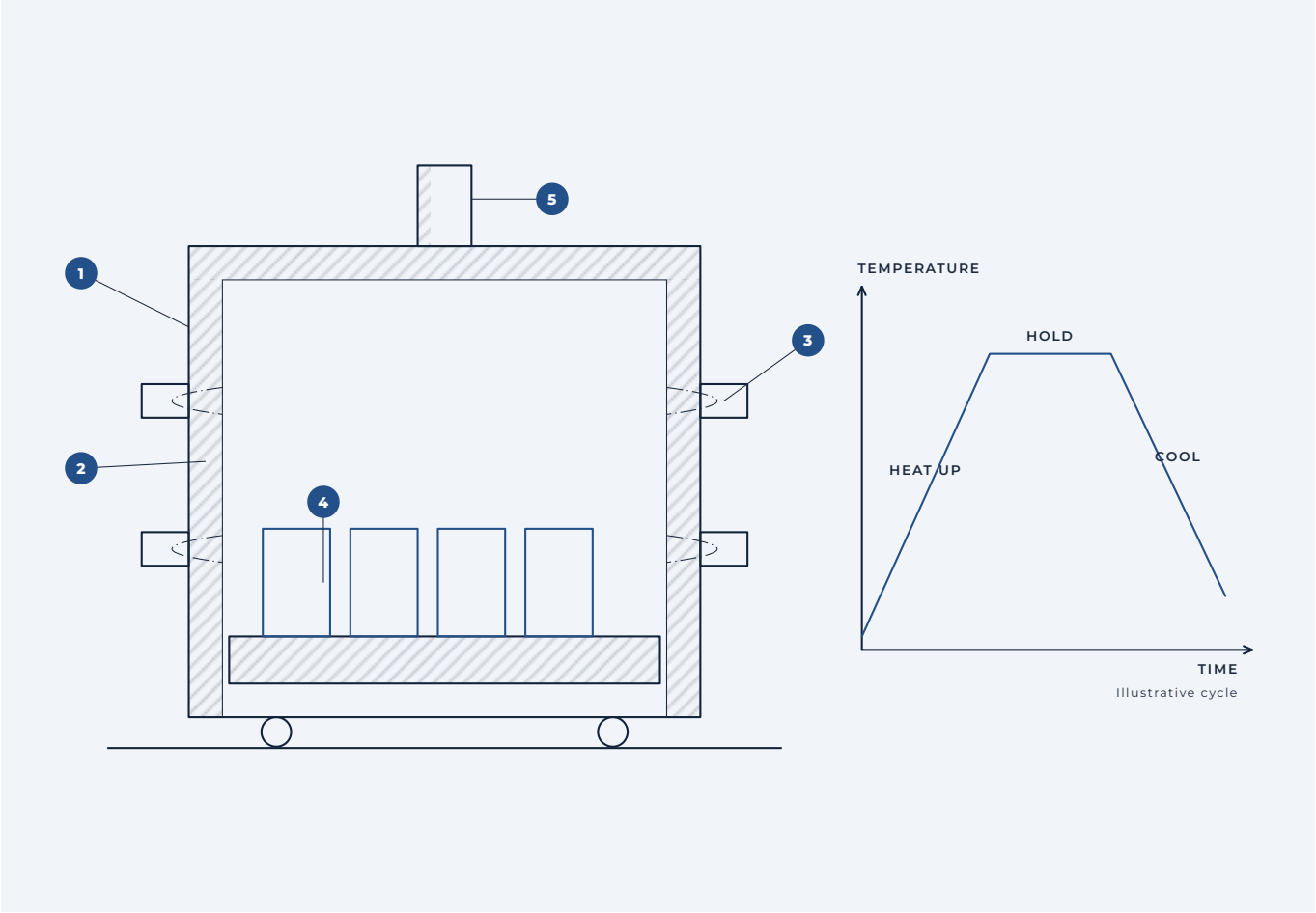


Every thermal process has its own temperature curve, and the furnace has to follow it, load after load. That depends on the structure, the lining, the burners and the control working as one.

BEISCO engineers and builds them the way we build our reheating furnaces: **in-house** design, steel construction and on-site commissioning.

Tell us the process and its temperature cycle. We will design the furnace around it.

A furnace is a box that keeps a promise.



Schematic section of an industrial furnace with a load car, and an illustrative temperature cycle. Not to scale.

1 Steel structure
Carries the lining, the burners and the load, and stays true through every heat cycle.

2 Refractory lining
Keeps the heat inside and the casing cool.

3 Burners
Placed so the heat reaches the load evenly.

4 Load
Enters and leaves on a car, a hearth or a conveyor, depending on the process.

5 Flue
Takes the flue gases out of the chamber.

FIELD NOTE

The recipe belongs to the process. Our job is to make the furnace follow it, every time.

Industrial furnaces





03

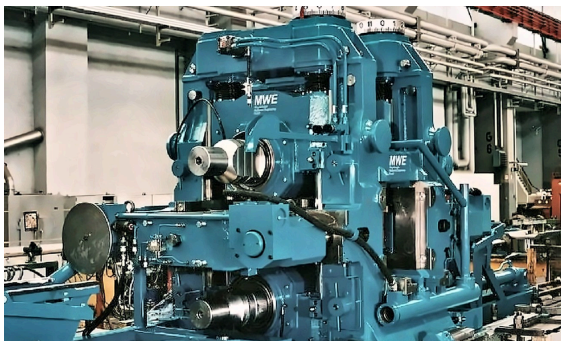
Basket Technology® · MWE Mill Solutions GmbH

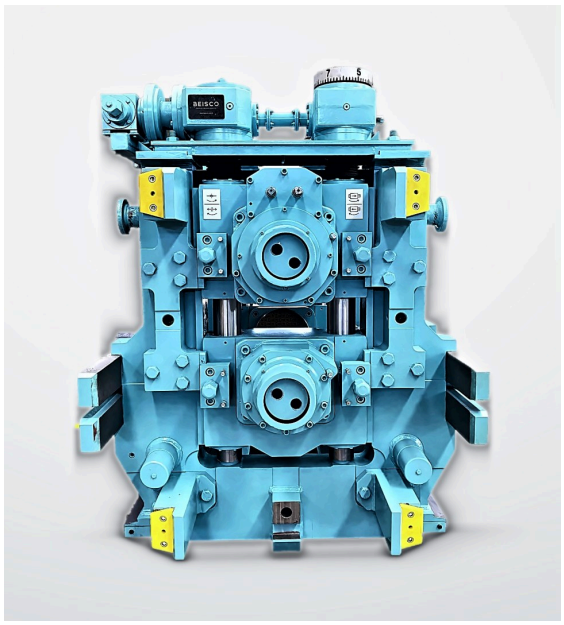
Rolling mill stands

UNIVERSAL · HOUSINGLESS · CONVENTIONAL

Rigidity you can measure. Roll changes you barely notice.

Tolerances are won or lost in the stand.





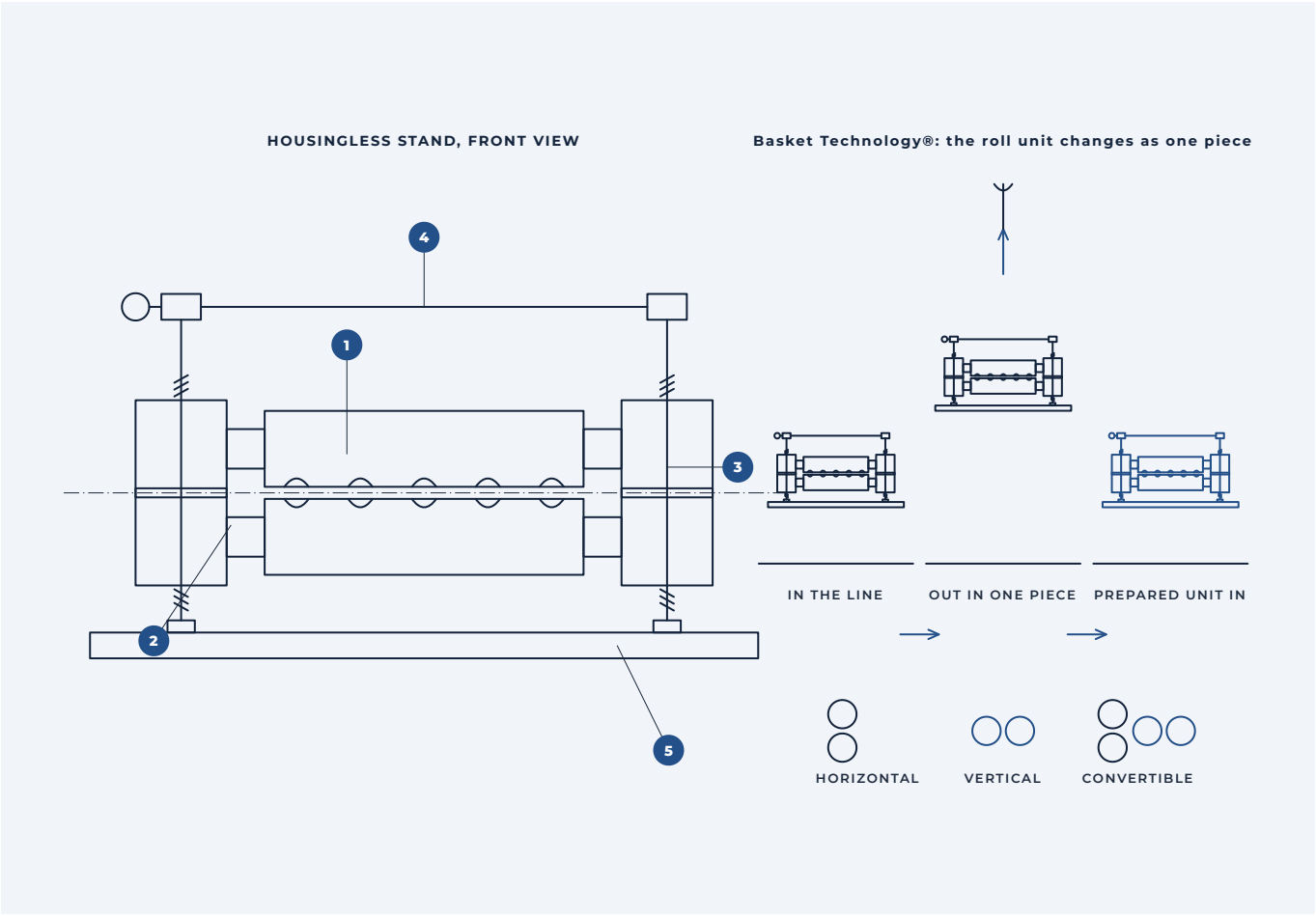


Every bar takes its final shape between two rolls held in position by the stand. If the stand gives way under load, the roll gap opens and the tolerance goes with it.

Our housingless two-high stands carry the rolling load in a compact, rigid unit. Using Basket Technology®, the mill changes a complete roll unit **in one piece**, so the next size starts sooner. Horizontal, vertical or convertible H/V stands, universal stands for sections and breakdown stands for heavy first passes are designed **with MWE** and manufactured in Izmir.

Send us the pass schedule and the roll sizes. We will size the stand.

Two rolls, held in place by a lot of steel.



Schematic of a two-high housingless stand and a roll change with Basket Technology®. Not to scale.

1 Rolls
The grooves give the bar its shape; the gap between the rolls gives it its size.

2 Chocks
Carry the roll bearings and the rolling load.

3 Tie rods
Hold the housingless stand together instead of a heavy housing.

4 Gap adjustment
Turns the tie rods, with left- and right-hand threads, so both rolls move symmetrically about the pass line.

5 Base
Carries the stand in the line and locates the roll unit.

FIELD NOTE

The fastest roll change is the one that was prepared yesterday, in the roll shop.

Rolling mill stands





KEY DATA

HOUSINGLESS STANDS

Nominal sizes
280–1050

Max. roll diameter
340–1,200 mm

Max. rolling torque
28–1,400 kNm

Radial rigidity
1,600–40,000 kN/mm

UNIVERSAL STANDS

Nominal sizes
390–760

Max. rolling torque
100–1,700 kNm

BREAKDOWN STANDS

Nominal sizes
540–1050

Max. rolling torque
280–6,000 kNm

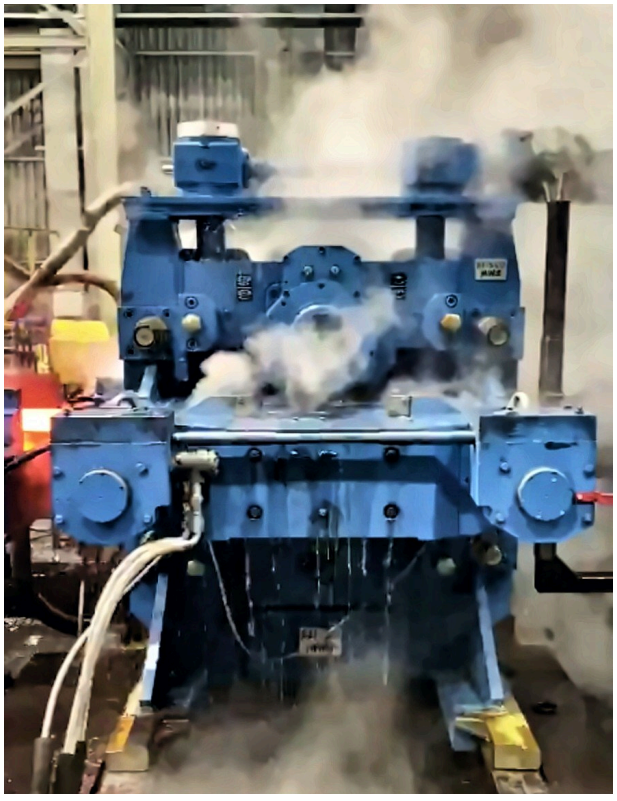
Send us the pass schedule and the roll sizes. We will size the stand.

Rolling mill stands in operation













04

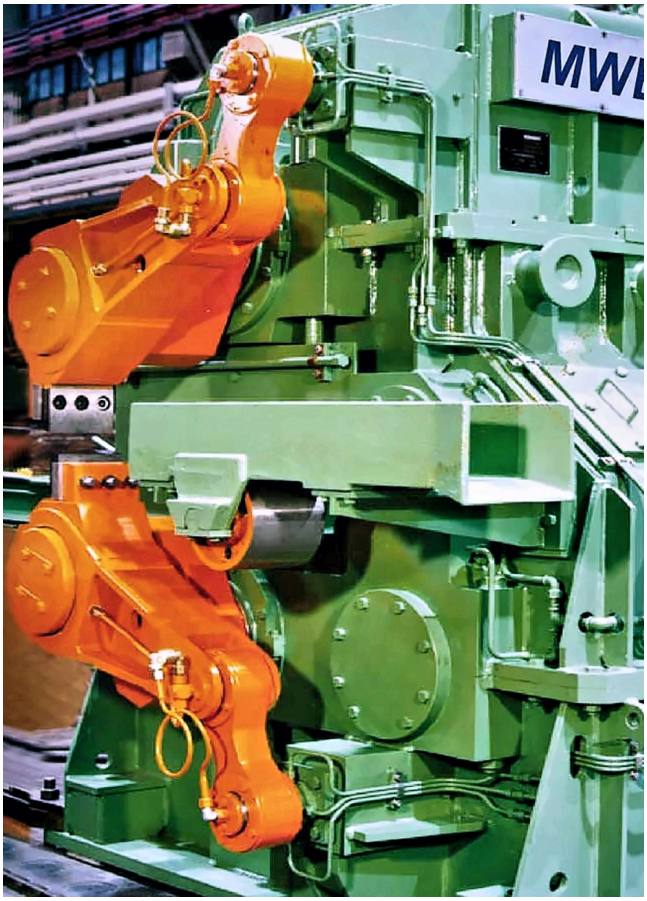
Rolling mill shears

CROP & COBBLE (FLYING & CRANK) · FINISHING (FLYING, CRANK & CONVERTIBLE) · COLD SHEARS

A moving bar. A fixed length. One chance to cut.

Every cut in a rolling mill is made on steel in motion.





Crop the head, divide for the cooling bed, clear an emergency, cut cold bars to length: each cut has its own place in the line and its own timing.

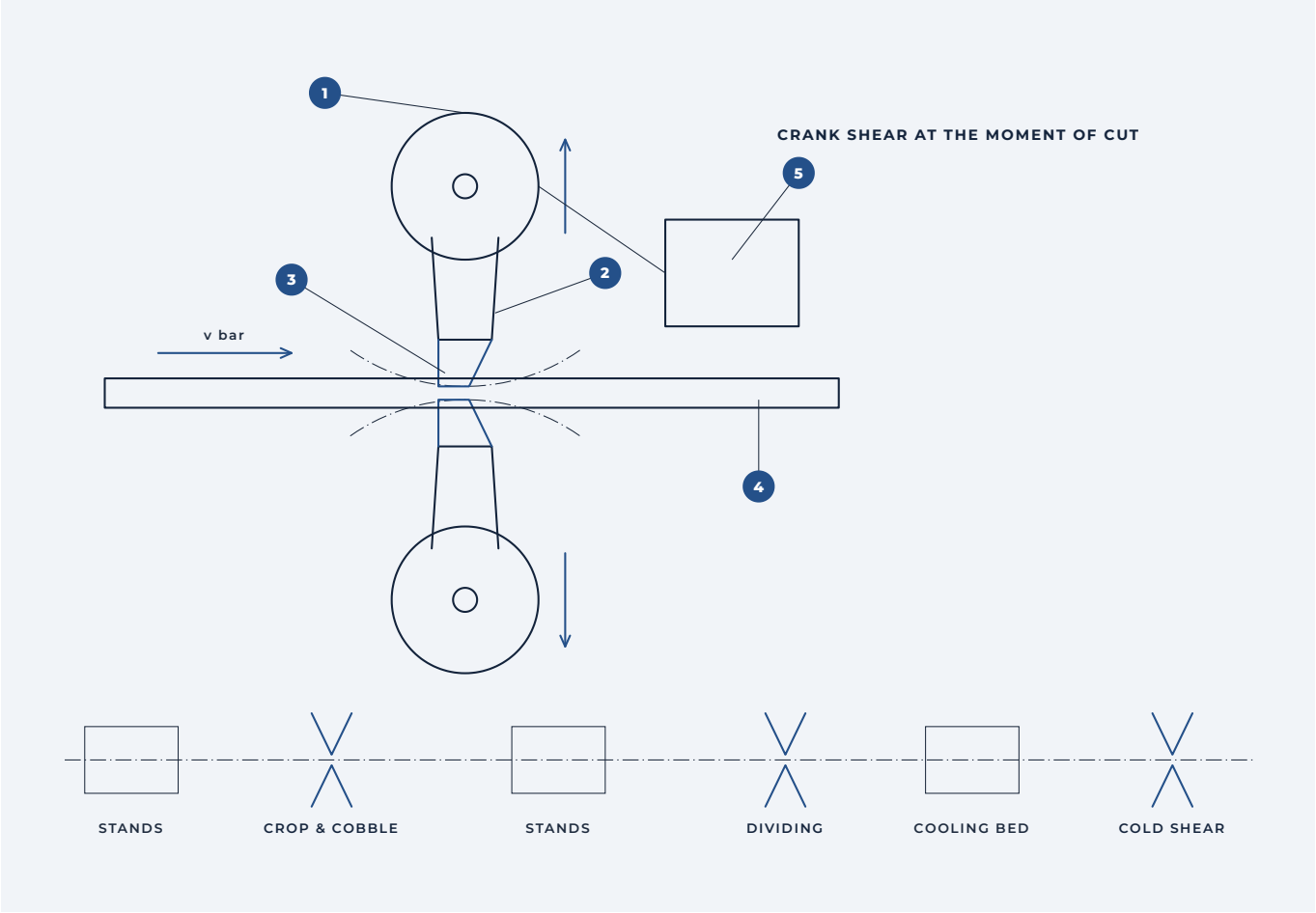
Our crank, crank-lever and double-crank shears keep the blades close to perpendicular to the stock for a **clean cut**, and the blade carrier is configured to the job, including **two blade tracks**, so cropping and short emergency lengths run on one machine.

KEY DATA

Crank lever shears	**360–1,250** kN
Crank shears, 1–2 blade tracks	**200–580** kN · **up to 16** m/s
Double crank shears	**800–1,400** kN
Flying shears	**up to 40** m/s

Tell us the bar sizes, the speed and where the cut has to be. We will propose the shear.

The blade meets the bar halfway.



Schematic of a crank shear and of where shears cut in a bar mill. Not to scale.

1 Crank
Turns once per cut and drives the blade carrier.

2 Blade carrier
Brings the blade to the bar and away again.

3 Blades
Meet close to perpendicular to the stock for a clean cut.

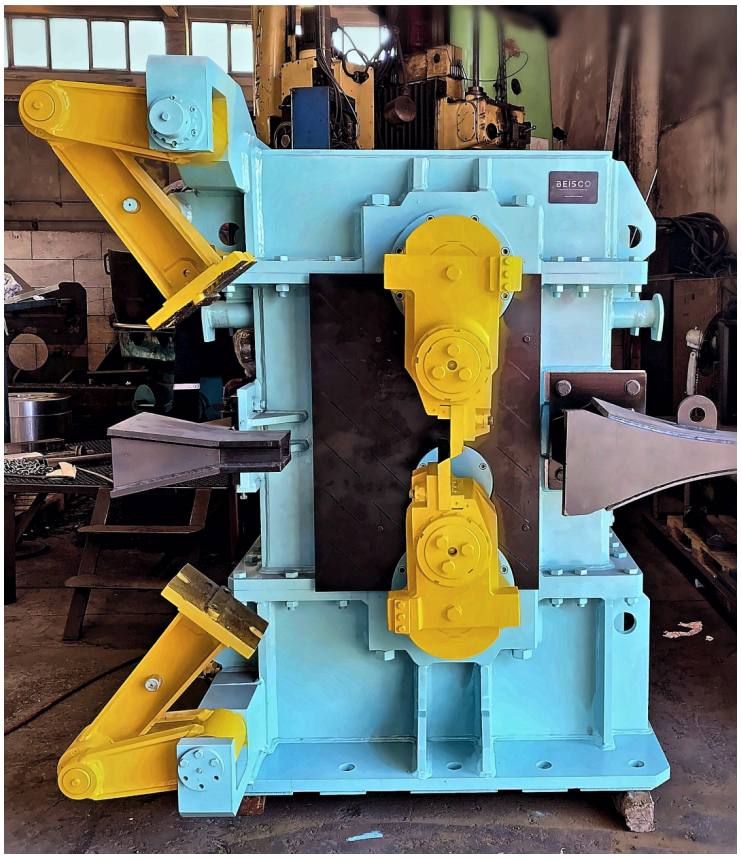
4 Bar in motion
Keeps moving while it is cut.

5 Drive
Starts, cuts and stops the shear for every single cut.

FIELD NOTE

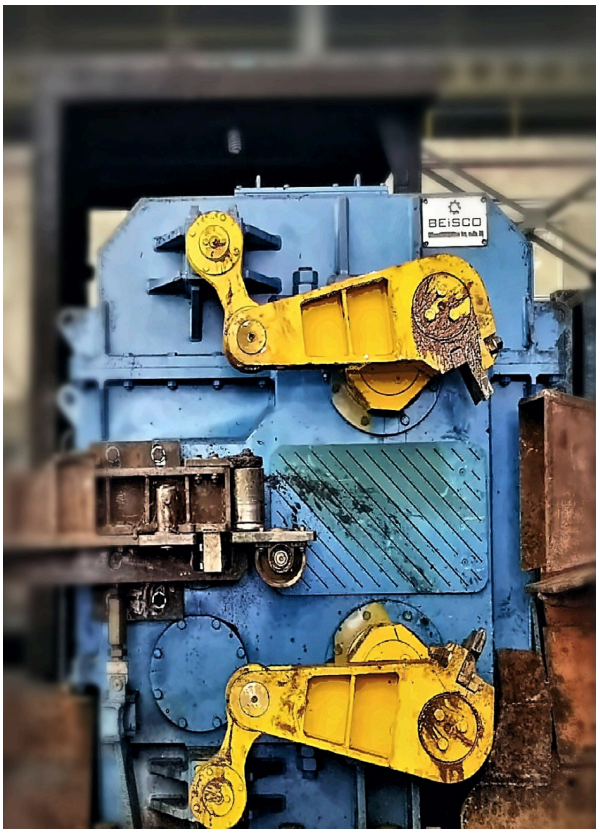
Arriving early is as bad as arriving late. The blade has to meet the bar at the bar's own speed.

Rolling mill shears

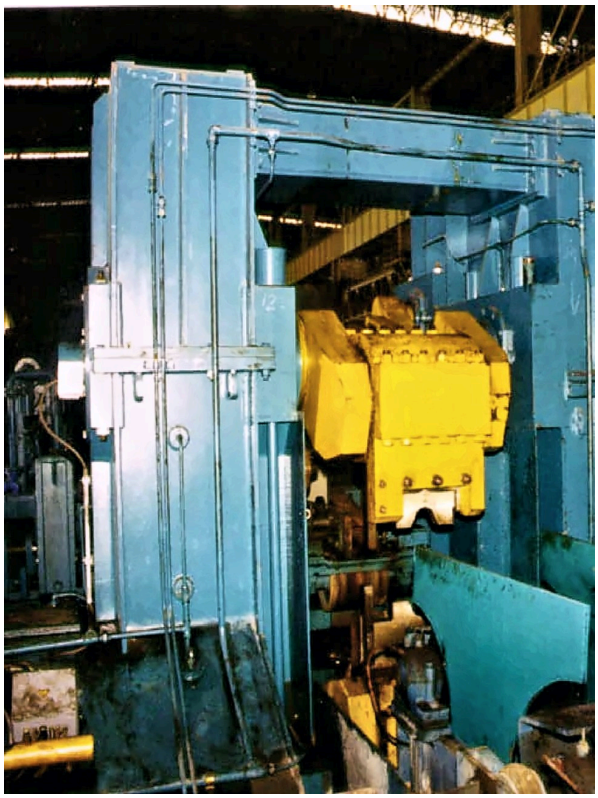


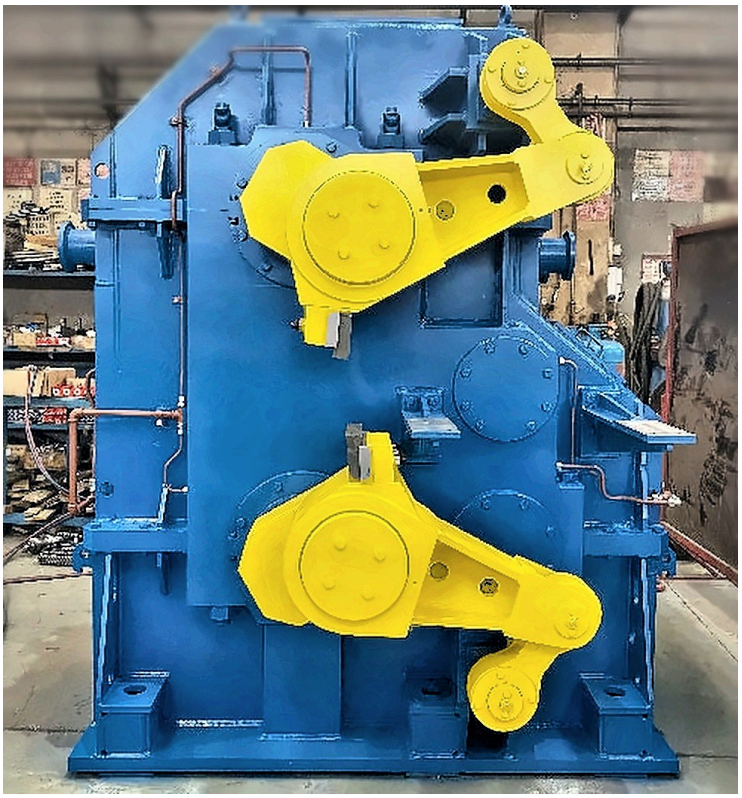


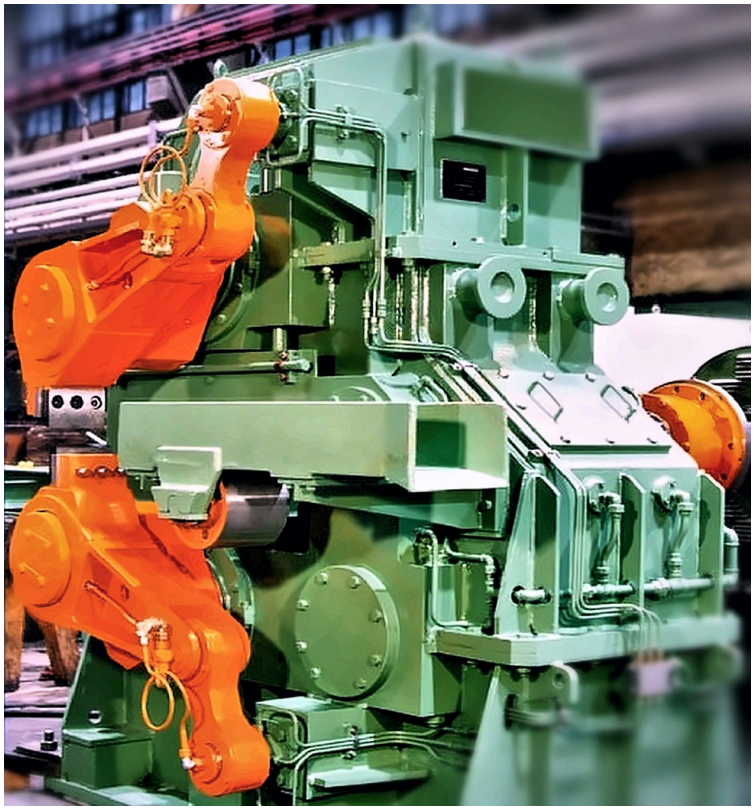


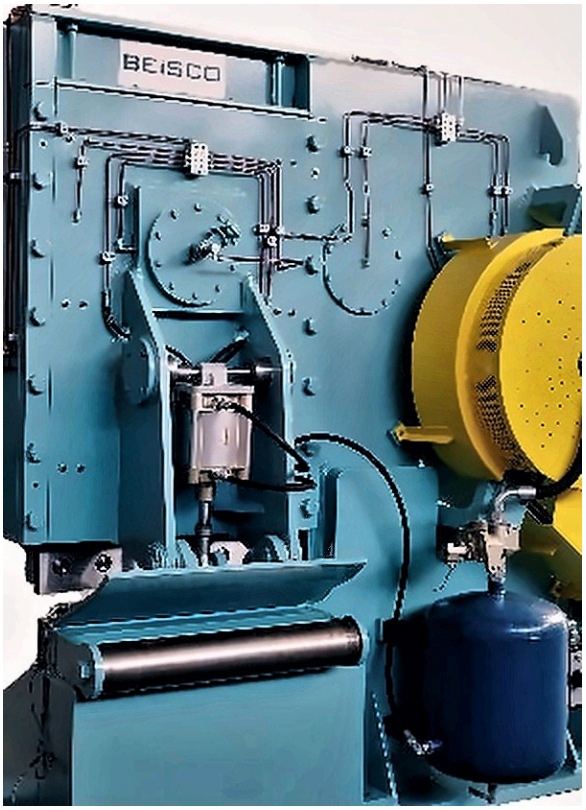


Rolling mill shears









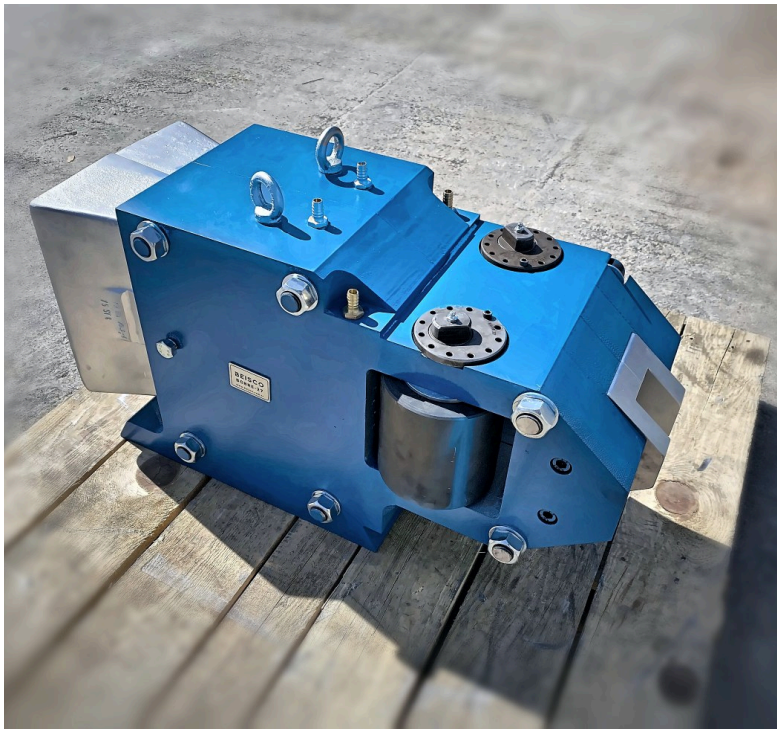
05

Rolling mill guides

ROLLER & STATIC TYPE · REBAR, WIRE ROD, SMALL SECTION AND HEAVY SECTION MILLS

The few millimetres that keep the bar on the pass line.

A bar that enters the groove off-centre becomes a cobble.



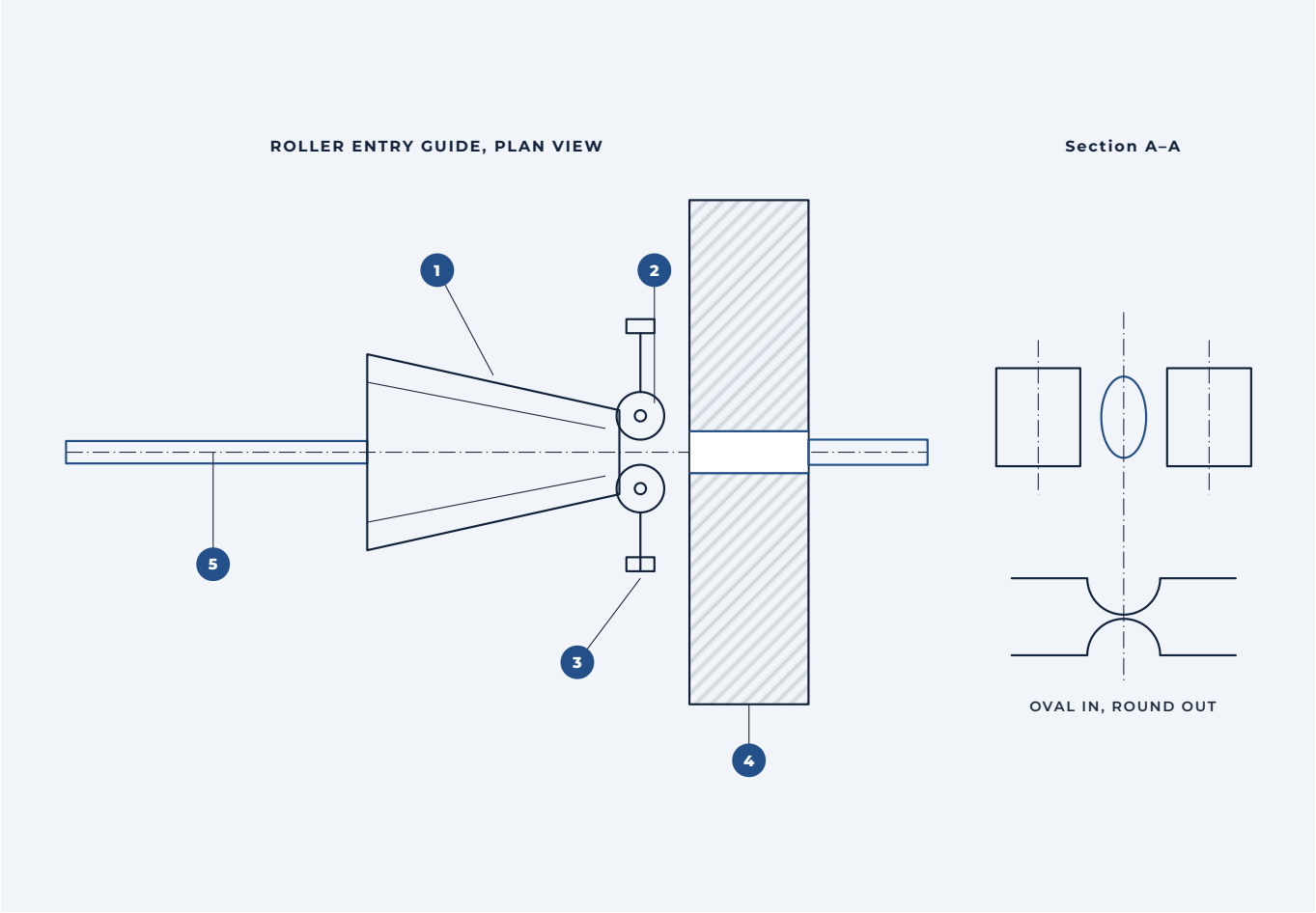


Roller and static guides hold the bar on the pass line, stand after stand, at full rolling temperature.

BEISCO designs guides together **with the pass design**, for rebar, wire rod and section mills, and manufactures them in Izmir, so a replacement or a new size comes from the **same drawings** that set up your mill.

Send us the pass design and the bar sizes. We will design the guides to match.

Straight in. Every time.



Schematic of a roller entry guide, plan view and section. Not to scale.

1 Guide body
Takes the bar from the previous stand and narrows its path.

2 Guide rollers
Hold the bar upright and centred at the groove entry.

3 Adjustment
Sets the rollers to the bar size.

4 Roll groove
Receives the bar exactly on the pass line.

5 Pass line
The line every bar has to follow, stand after stand.

FIELD NOTE

Nobody notices a guide that works. Everybody notices the cobble.

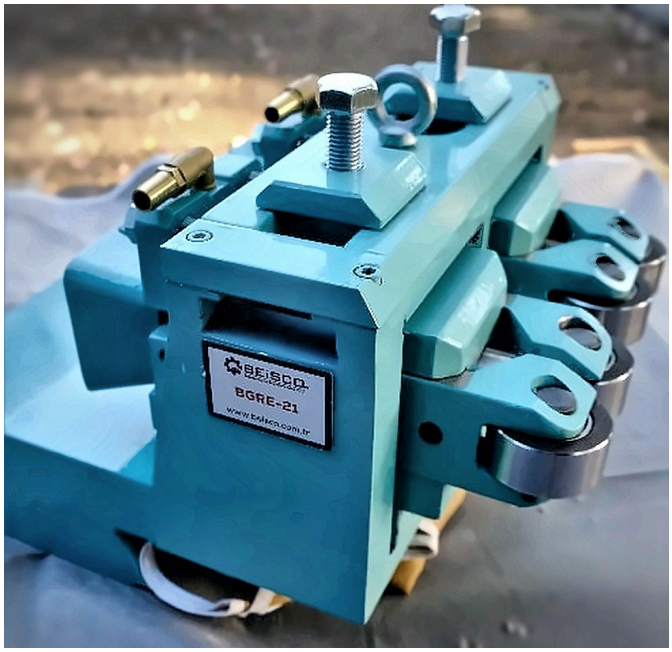
Rolling mill guides

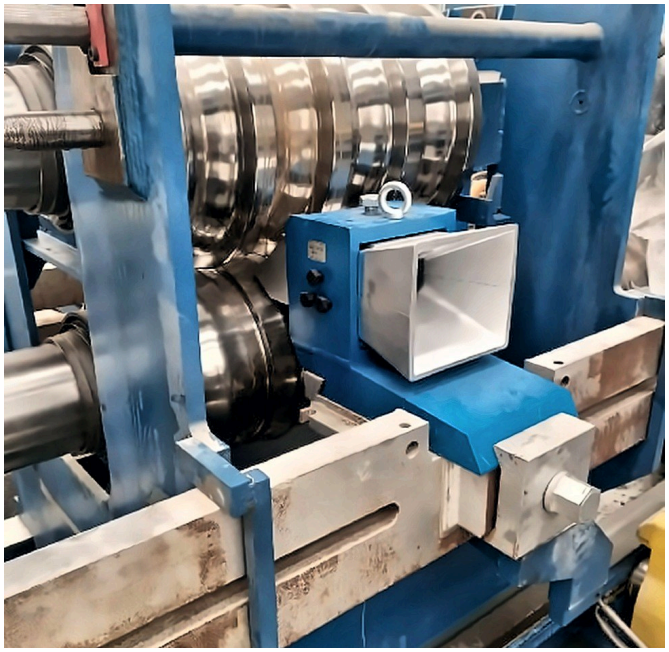












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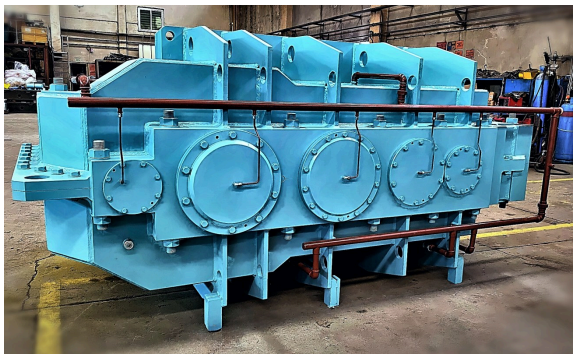
Gearboxes

MILL GEARBOXES AND DRIVE TRAINS

Nobody watches the gearbox. Until it stops.

Every kilowatt that reaches the rolls passes through a gearbox.





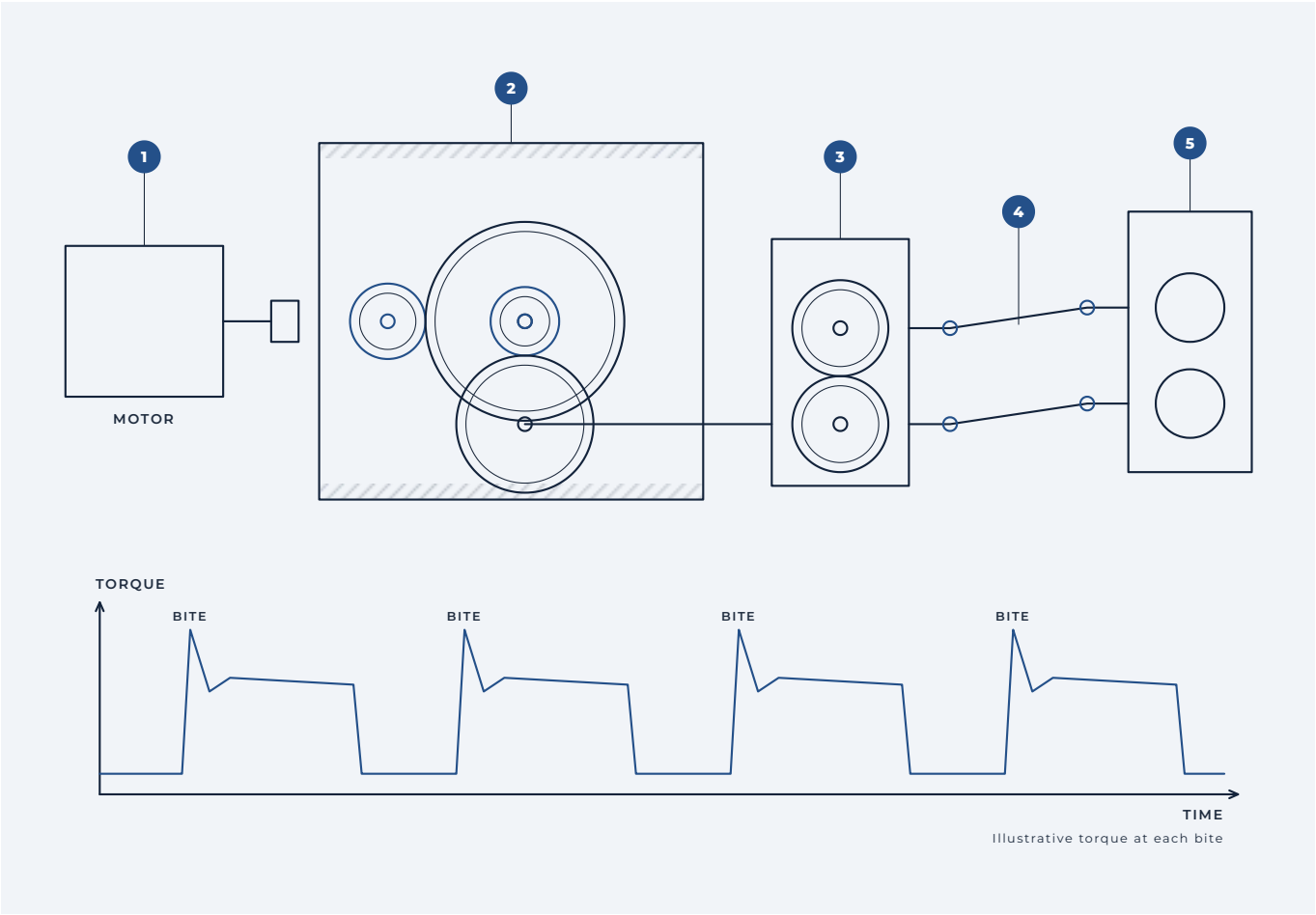


Hour after hour, with a **shock load** each time a billet bites. A mill gearbox has to be built for that moment, not for an average day.

BEISCO designs and manufactures mill gearboxes around the torque, speed and layout of your stands, so the drive train is **matched to the mill** rather than to a catalogue.

Send us the motor data and the torque at the stand. We will design the gearbox.

From the motor to the roll, every kilowatt passes here.



Schematic of a mill drive train and an illustrative torque trace. Not to scale.

1 Motor
Delivers speed. The gearbox turns it into torque.

2 Gearbox
Reduces the speed to what the stand needs.

3 Pinion stand
Splits the drive between the upper and the lower roll.

4 Spindles
Carry the torque to the rolls.

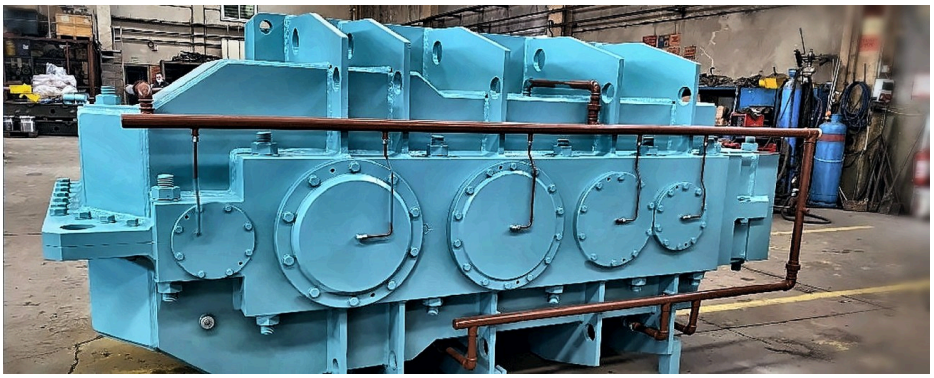
5 Stand
Where the torque finally meets the steel.

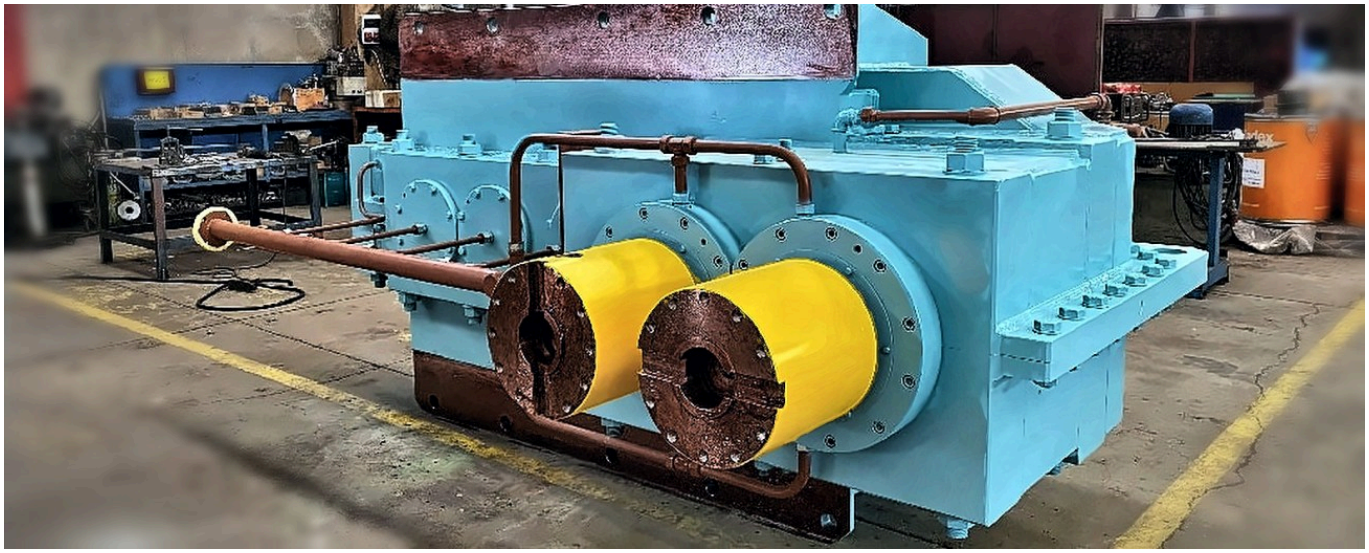
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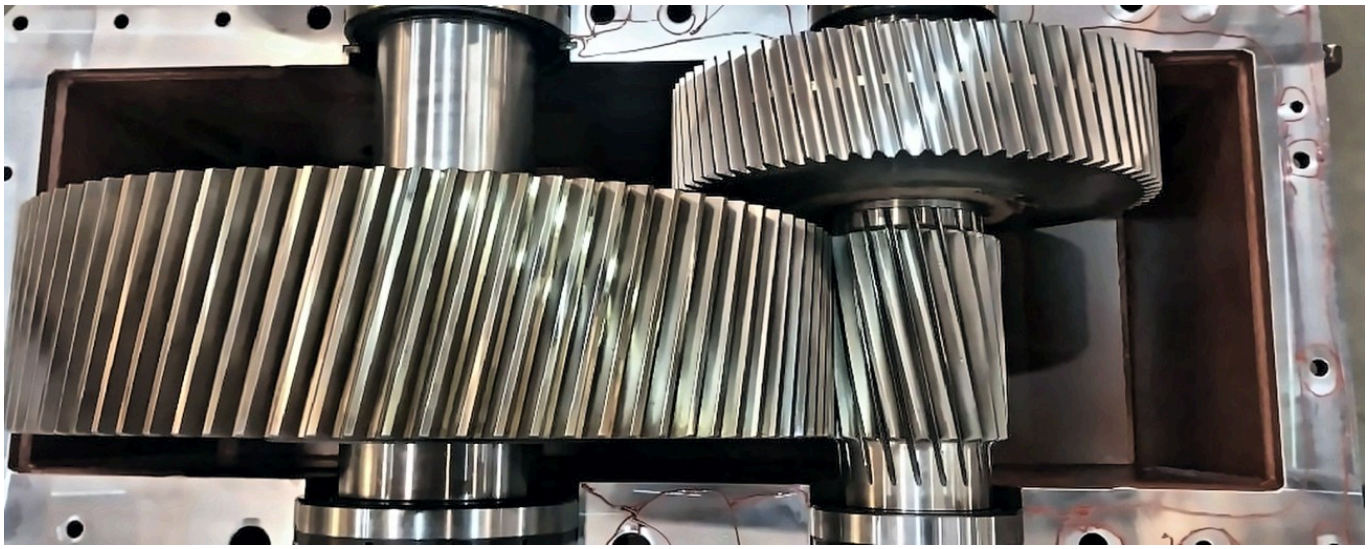
Its best days are the ones nobody remembers.

Gearboxes









07

Pinch rolls

FURNACE AREA · MILL · HIGH SPEED · LOOPERS

The last firm grip before the shear, the bed or the coil.

Wherever the bar must be pushed, braked or steered, a pinch roll takes hold of it.

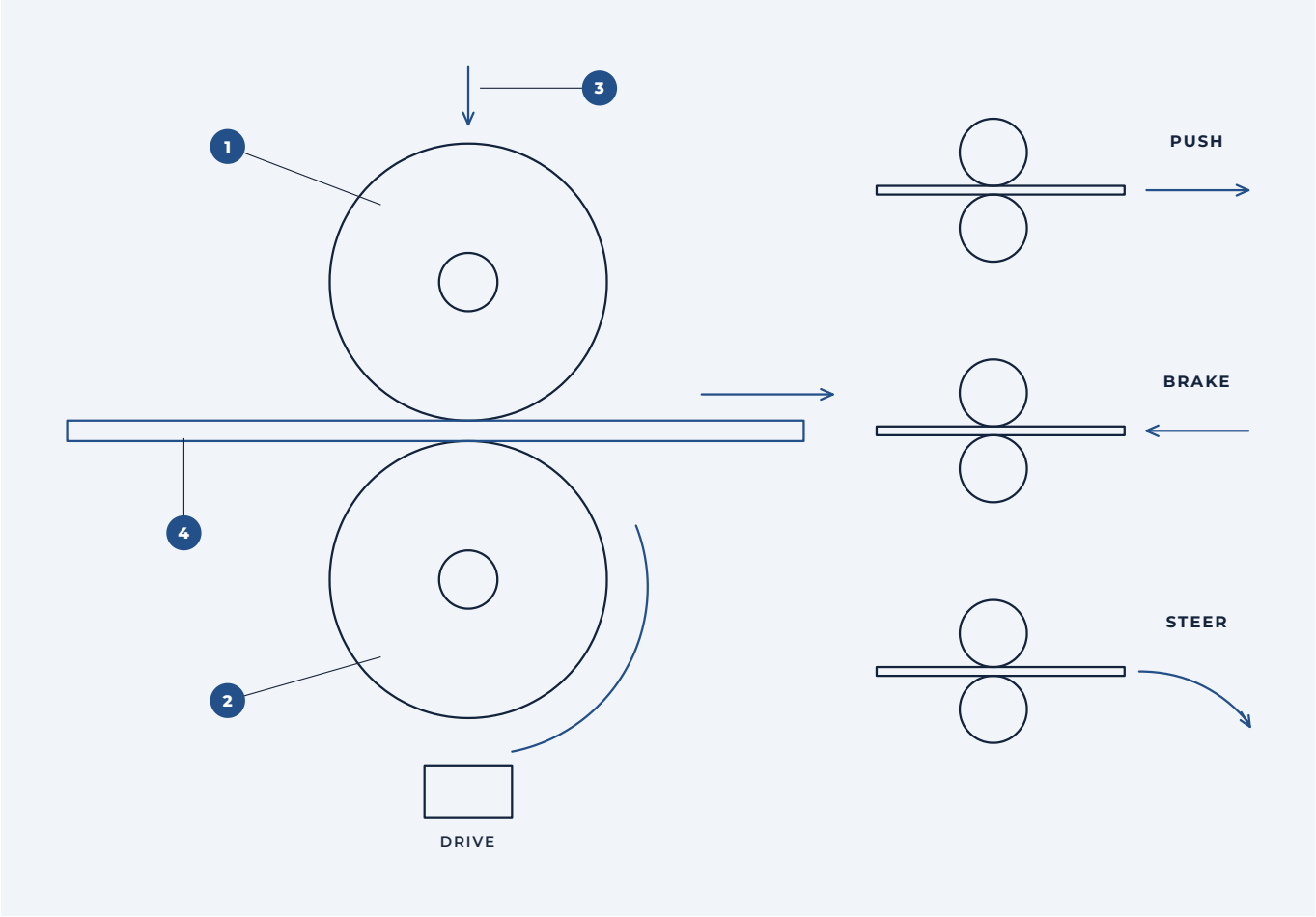


At the furnace, ahead of shears, before cooling beds, laying heads and reels. In bar-in-coil lines, back-tension pinch rolls switch to braking mode as the tail leaves the last stand, so the coil is **wound under tension**.

BEISCO builds furnace-area, mill and high-speed pinch rolls, and loopers.

Tell us where the bar has to be pushed, braked or steered. We will propose the pinch roll.

Push, brake or steer. Sometimes all three.



Schematic of a pinch roll and its three jobs. Not to scale.

1 **Upper roll**
Presses the bar onto the lower roll.

2 **Lower roll**
Driven: turns the grip into movement.

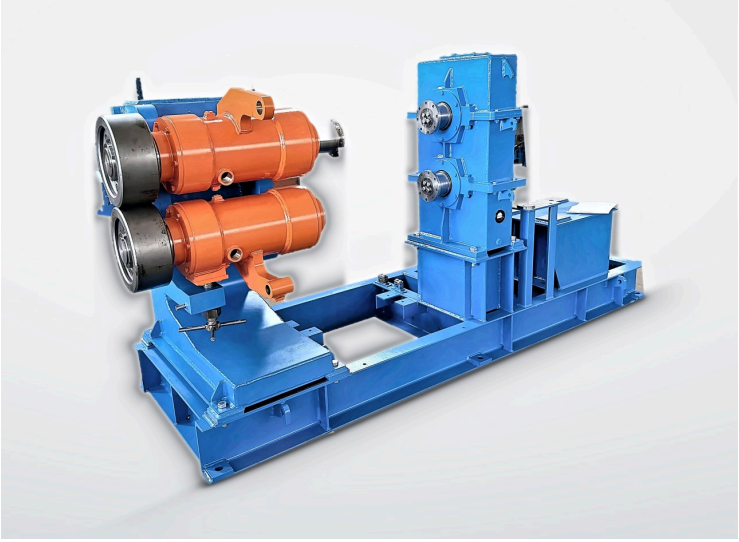
3 **Clamping force**
Just enough to move the bar.

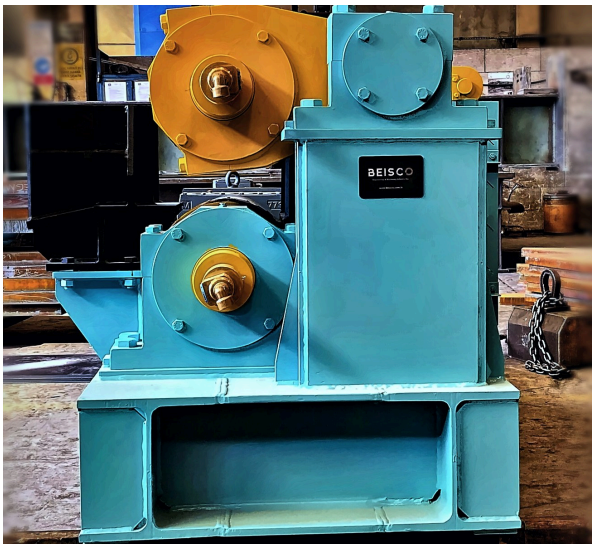
4 **Bar**
Pushed, braked or steered to where it has to go.

FIELD NOTE

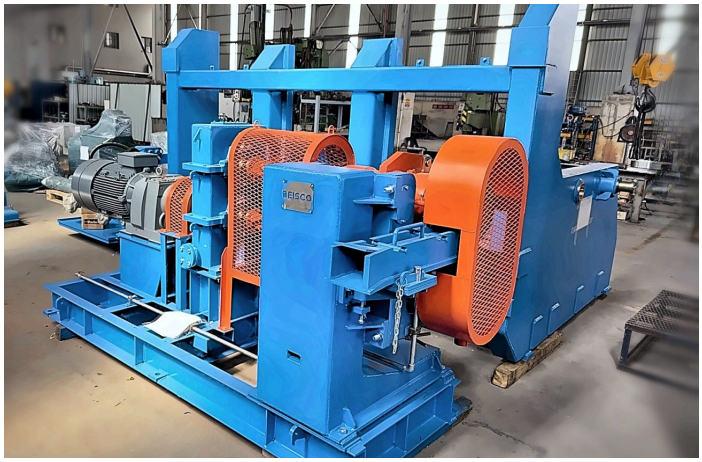
Too loose and the bar wanders. Too tight and the surface pays.

Pinch rolls











08

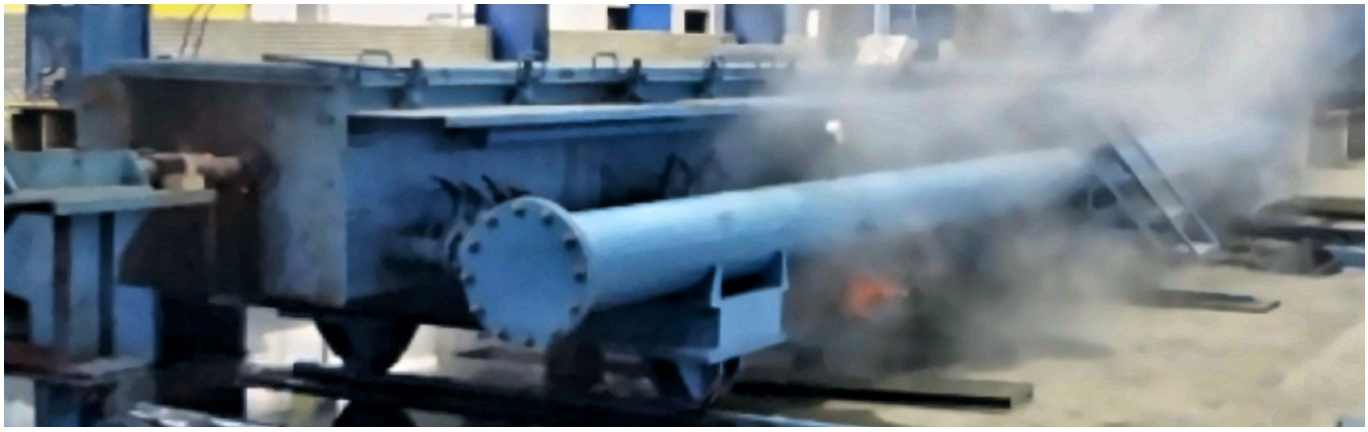
Thermocoil® · MWE Mill Solutions GmbH

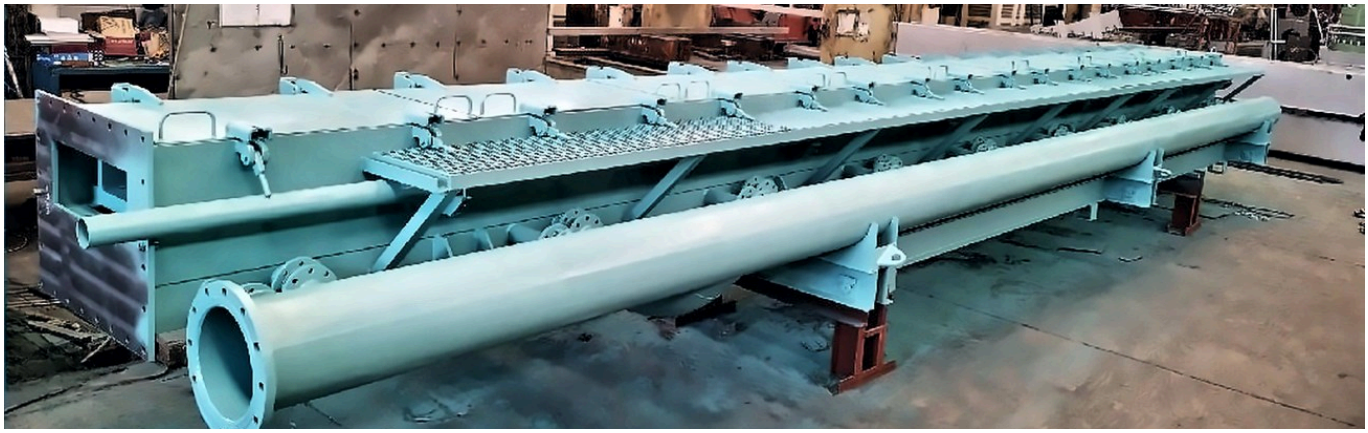
Cooling systems

THERMOCOIL® COOLING TRAINS

The last stand shapes the bar. The water decides what it becomes.

After the finishing stand, controlled water cooling decides the final microstructure.





Thermocoil® was developed by SKET in the 1980s for wire rod lines at product speeds **up to 100 m/s**; MWE carries it forward with the APROCS control system and has also extended it to bar mills.

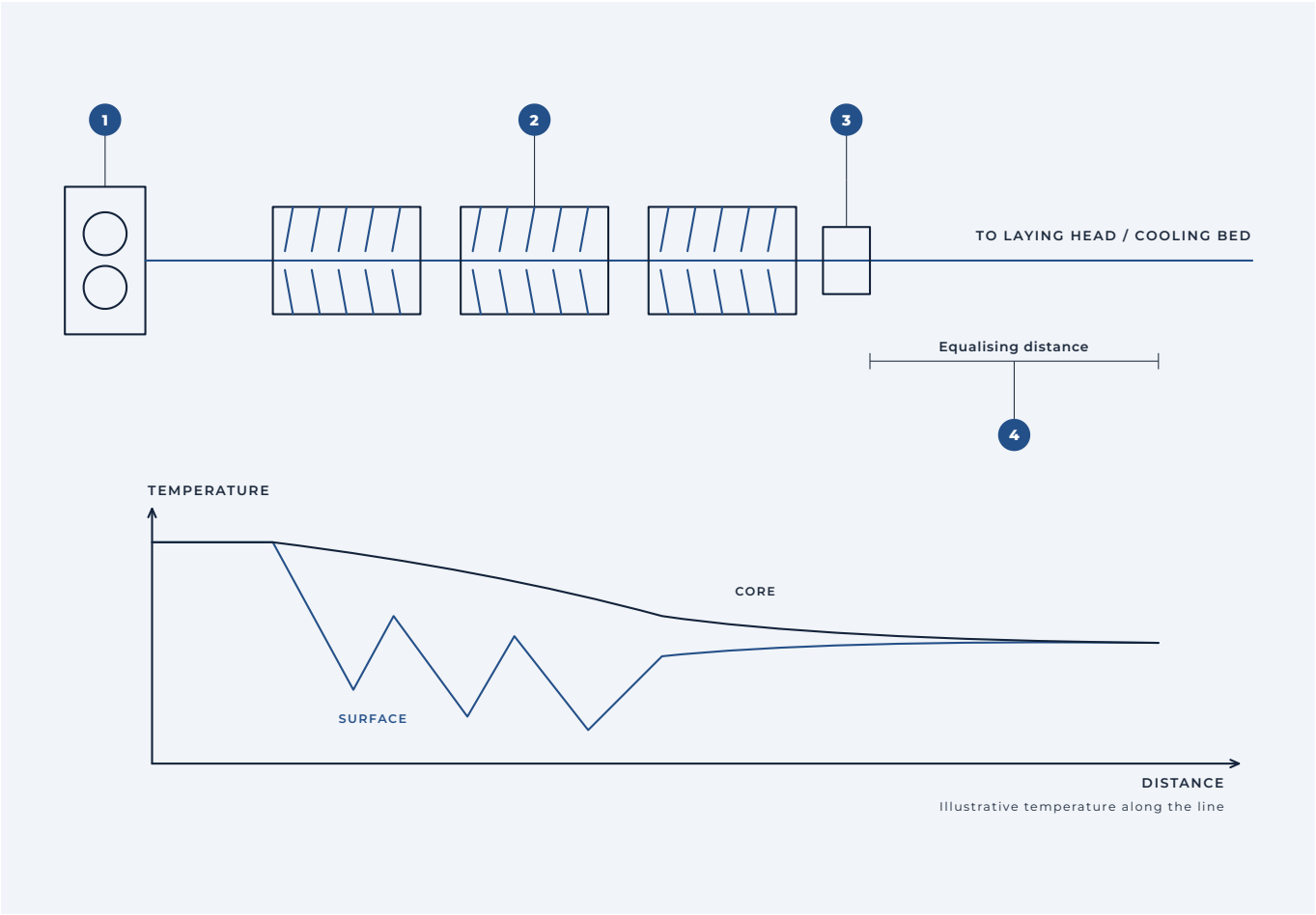
BEISCO manufactures Thermocoil® cooling boxes, pipes and stripper nozzles **to MWE design**.

KEY DATA

Product speed (wire rod)	**up to 100** m/s
Process control	**APROCS**
Applications	**Wire rod cooling lines, bar quenching lines**

Tell us the product, the speed and the properties you need. We will propose the cooling line with MWE.

The rolling is finished. The steel is still making up its mind.



Schematic of a water cooling line and an illustrative temperature course. Not to scale.

1 Finishing stand
The bar leaves with its final size, still hot.

2 Cooling boxes
Water cools the surface, box by box.

3 Stripper nozzles
Take the water off the bar.

4 Equalising distance
Heat from the core evens out the temperature of the bar.

FIELD NOTE

Water is cheap. Getting it to the right place, for the right time, at up to 100 m/s is not.

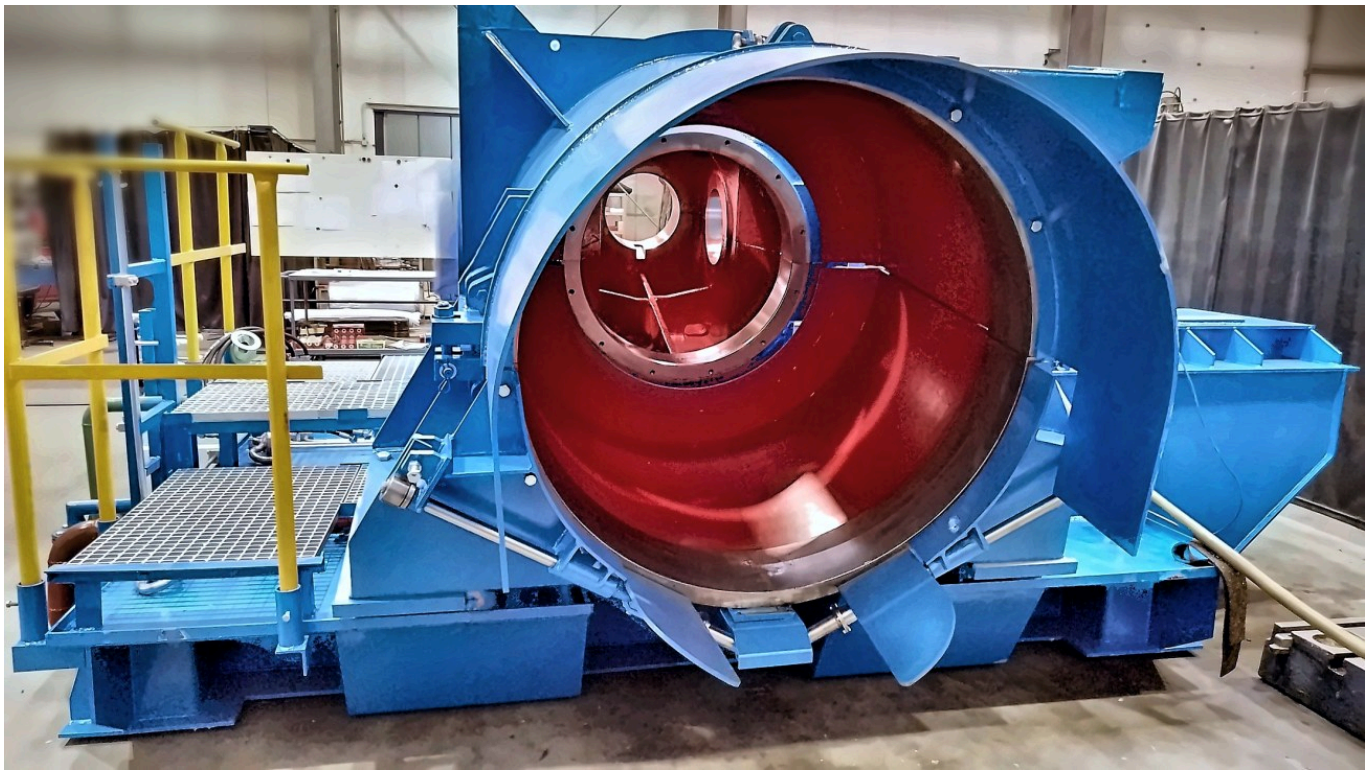
09

Wire rod mill equipment

MONOBLOCK · VARIOBLOCK · X-BLOCK · SPOOLER

100 metres a second. Still in control.

At the end of a rod mill the product leaves the last stand at up to 100 m/s: 360 km/h.

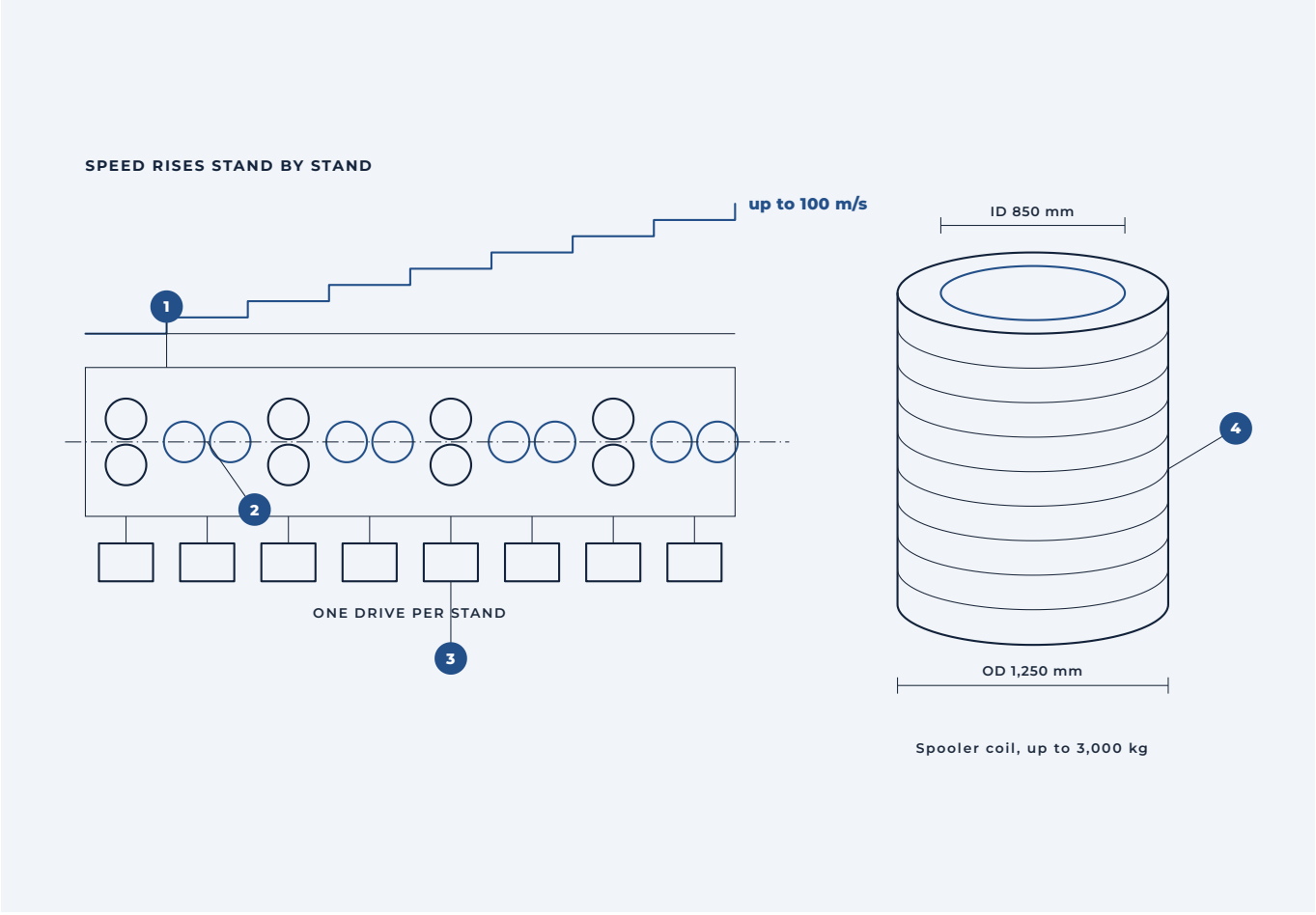


Multi-driven X-Blocks shape the bar at high speed and low temperature, so it leaves with defined metallurgical properties. Monoblock and Varioblock designs serve conventional layouts. Spoolers wind bars into compact coils under tension.

Designed with MWE. Manufactured in Izmir and installed on site by BEISCO.

Send us the product range and the finishing speed. We will propose the block and the spooler.

360 km/h, and the bar still has to arrive round.



Schematic of an individually driven rod block (X-Block type), its speed steps and a spooler coil. Not to scale.

1 Block
Several stands close together, one after the other.

2 Roll pairs at 90°
Each pair works the bar from a different side, so it never needs twisting.

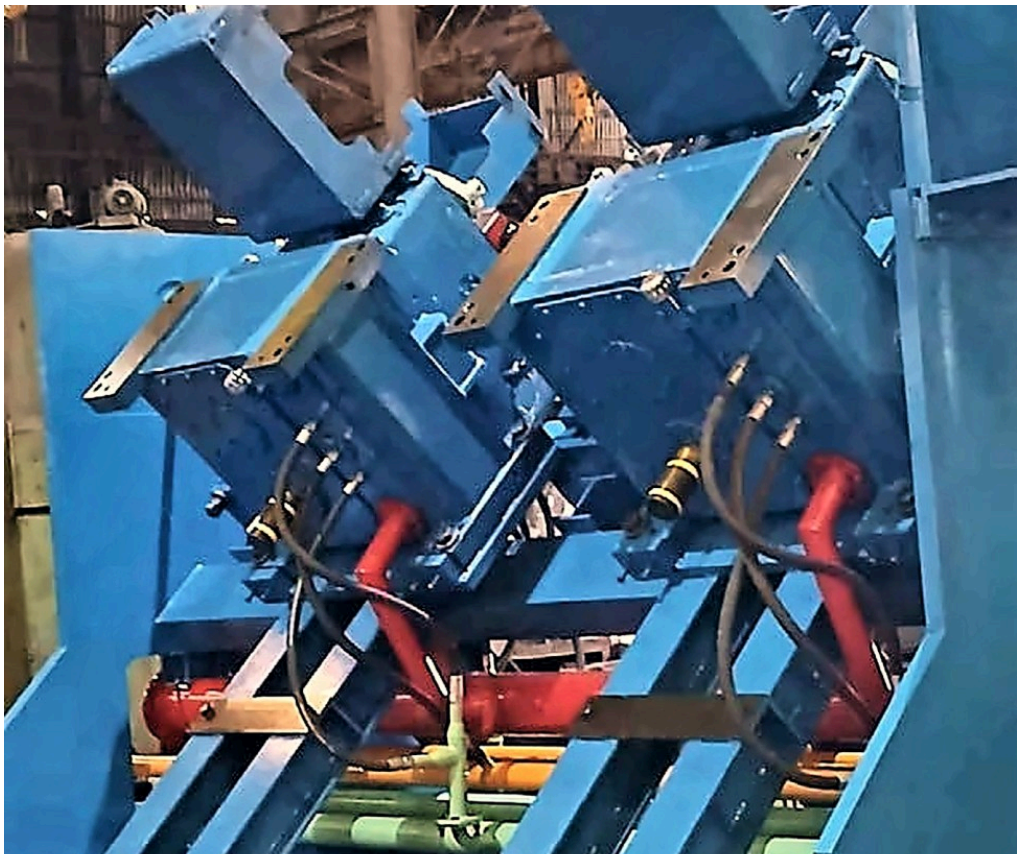
3 Drives
One drive per stand (X-Block type), so every stand runs at its own speed as the bar gets longer and faster.

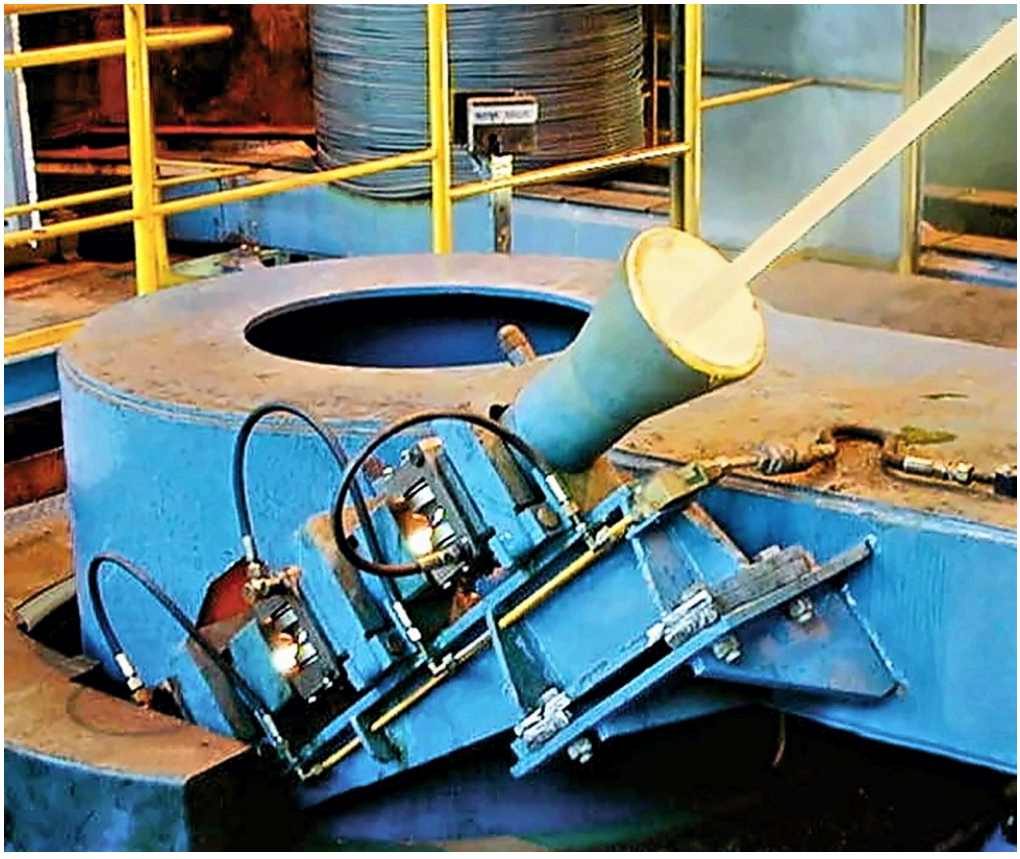
4 Spooler coil
Bars wound into compact coils under tension.

FIELD NOTE

At 100 m/s, a metre of bar passes in a hundredth of a second. There is no time for second thoughts.

Wire rod mill equipment





KEY DATA

X-BLOCK

Product speed
up to 100 m/s **(designed for 120)**

Bar version, to the cooling bed
2–8 stands · up to 40 m/s **· Ø 8–40** mm

SPOOLER

Product
Rounds Ø 8–42 mm**, squares, hexagons**

Reeling speed
up to 30 m/s

Coil
ID 850 / OD 1,250 mm **· up to 3,000** kg

Send us the product range and the finishing speed. We will propose the block and the spooler.

10

Cooling beds

FOR REBARS, SECTION MILLS AND MELTSHOPS

Bars arrive at mill speed. They must leave cold, straight and in order.

The cooling bed is where speed turns into straightness.



Each bar has to be braked, placed and indexed so that it **cools evenly** and reaches the cold shear ready to cut and pack.

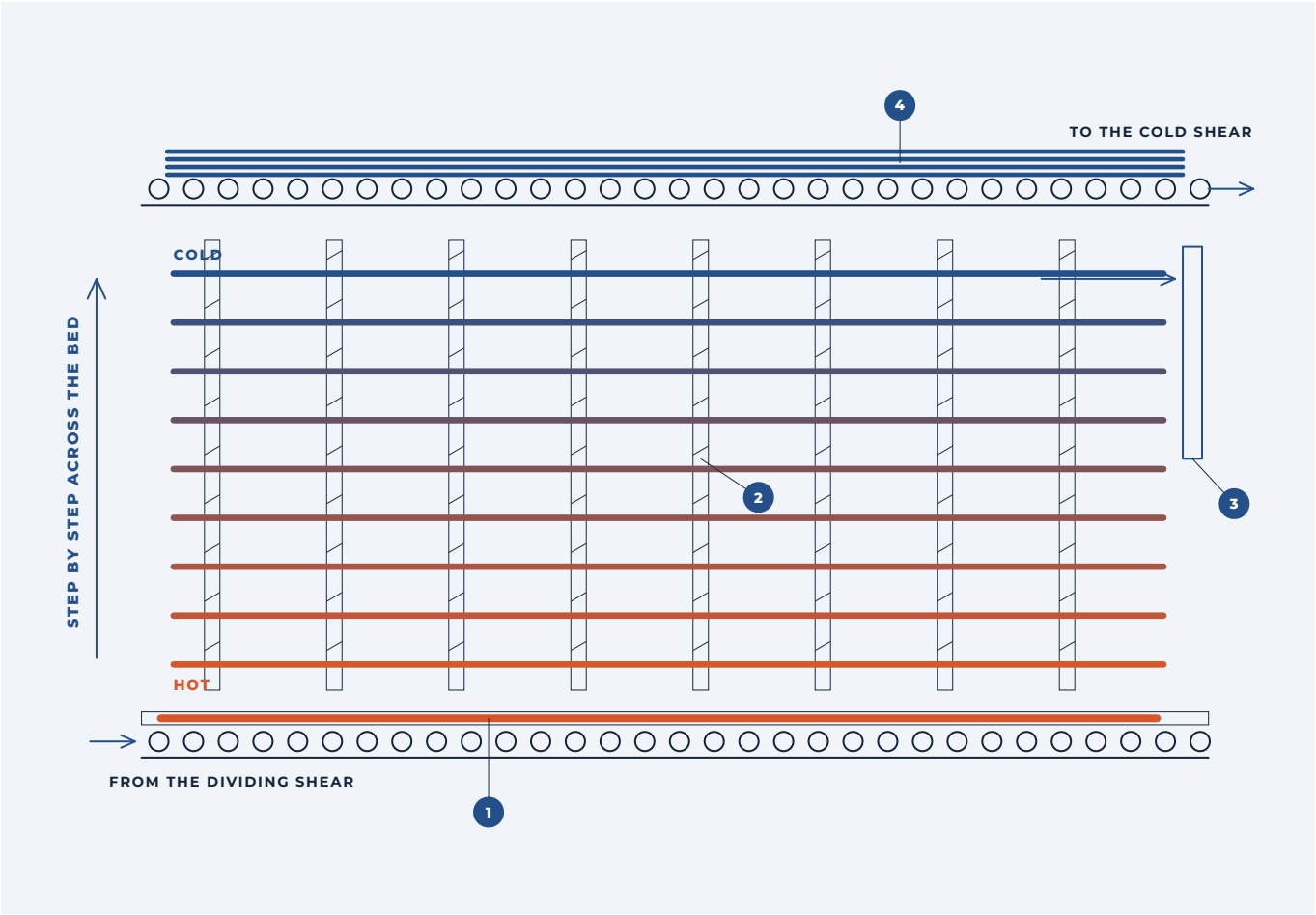
BEISCO designs and builds cooling beds and their delivery systems for rebar mills, section mills and meltshops.

KEY DATA

High-speed delivery	**up to 40** m/s **(MWE technology)**

Send us the bar lengths, the delivery speed and the output. We will size the cooling bed.

Hot, fast and one at a time in. Cold, straight and in order out.



Schematic top view of a cooling bed. Not to scale.

1 Run-in and braking
Each bar is slowed down and laid on the bed.

2 Notched racks
Step the bars across the bed, one notch at a time, so they cool evenly.

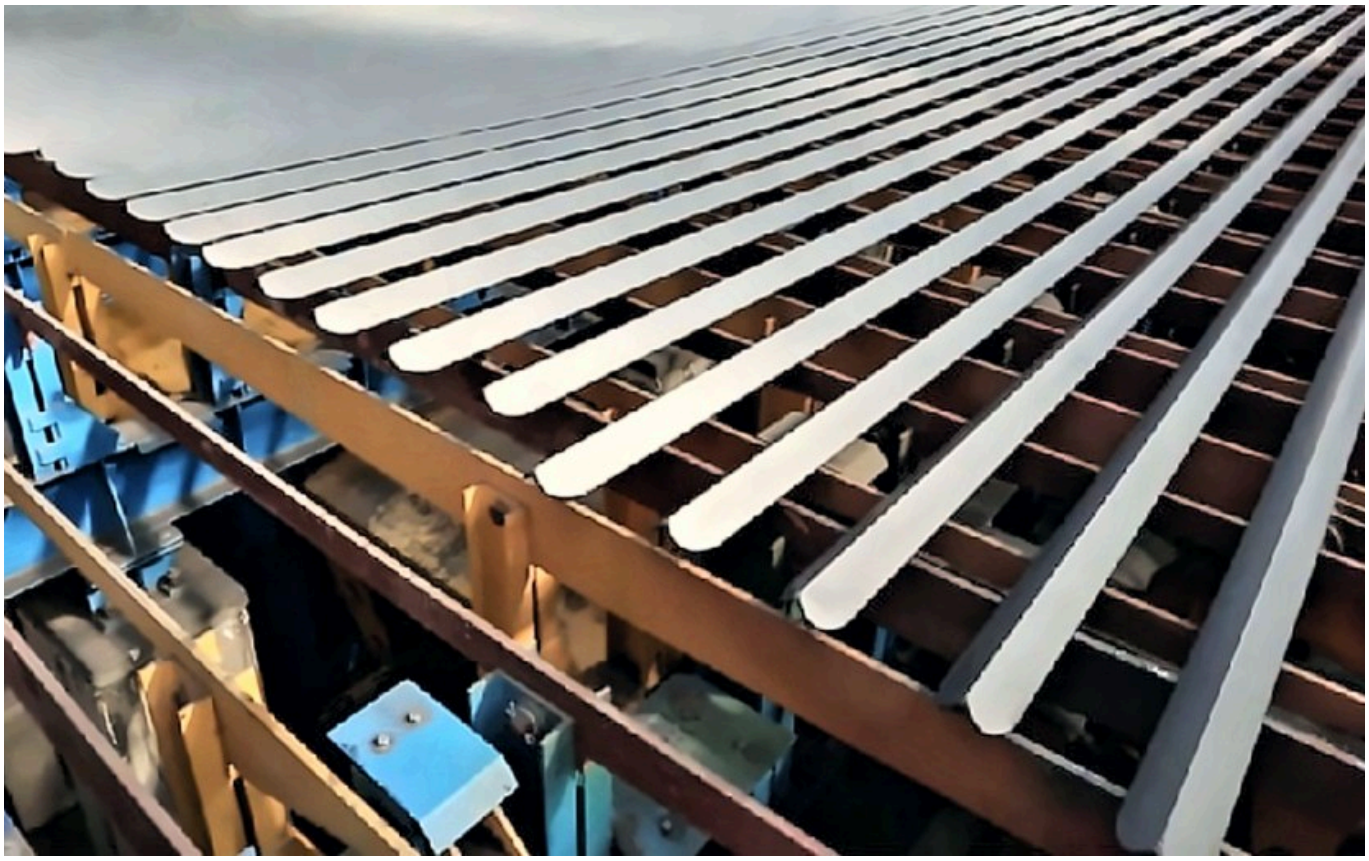
3 Aligning
Lines up the bar ends.

4 Run-out
Takes the bars to the cold shear.

FIELD NOTE

A cooling bed is the only part of the mill that is supposed to slow things down.

Cooling beds & packing area





11

Straightening machines

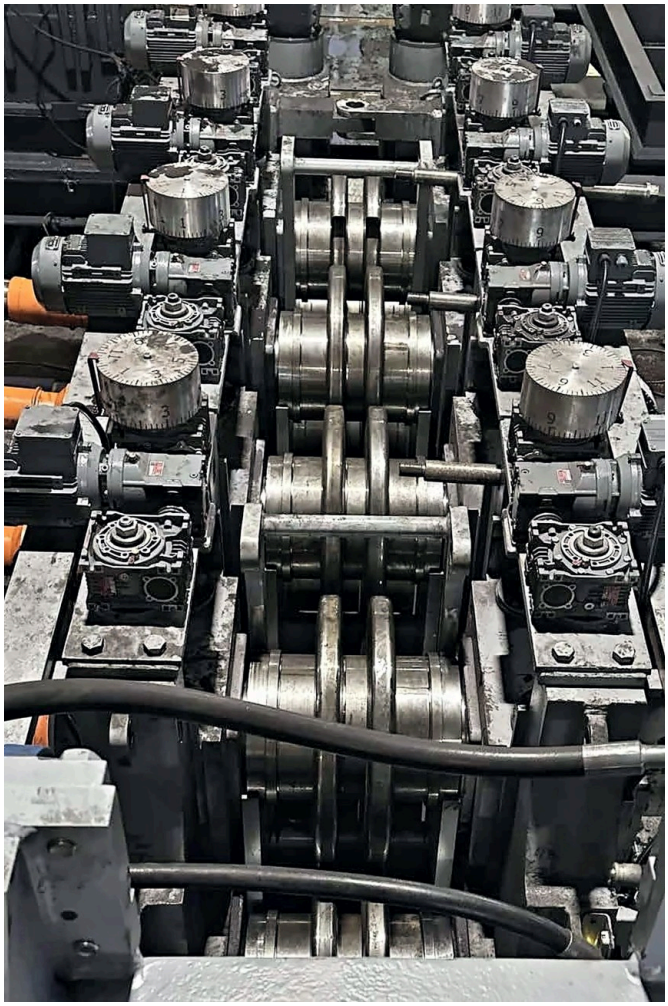
FINISHING SHOP · HOUSINGLESS STRAIGHTENING MACHINES

Your customer never sees the mill. They see the bundle.

Straight bars, square ends, the right count, a tight binding: the finishing shop is the mill's handshake with the customer.





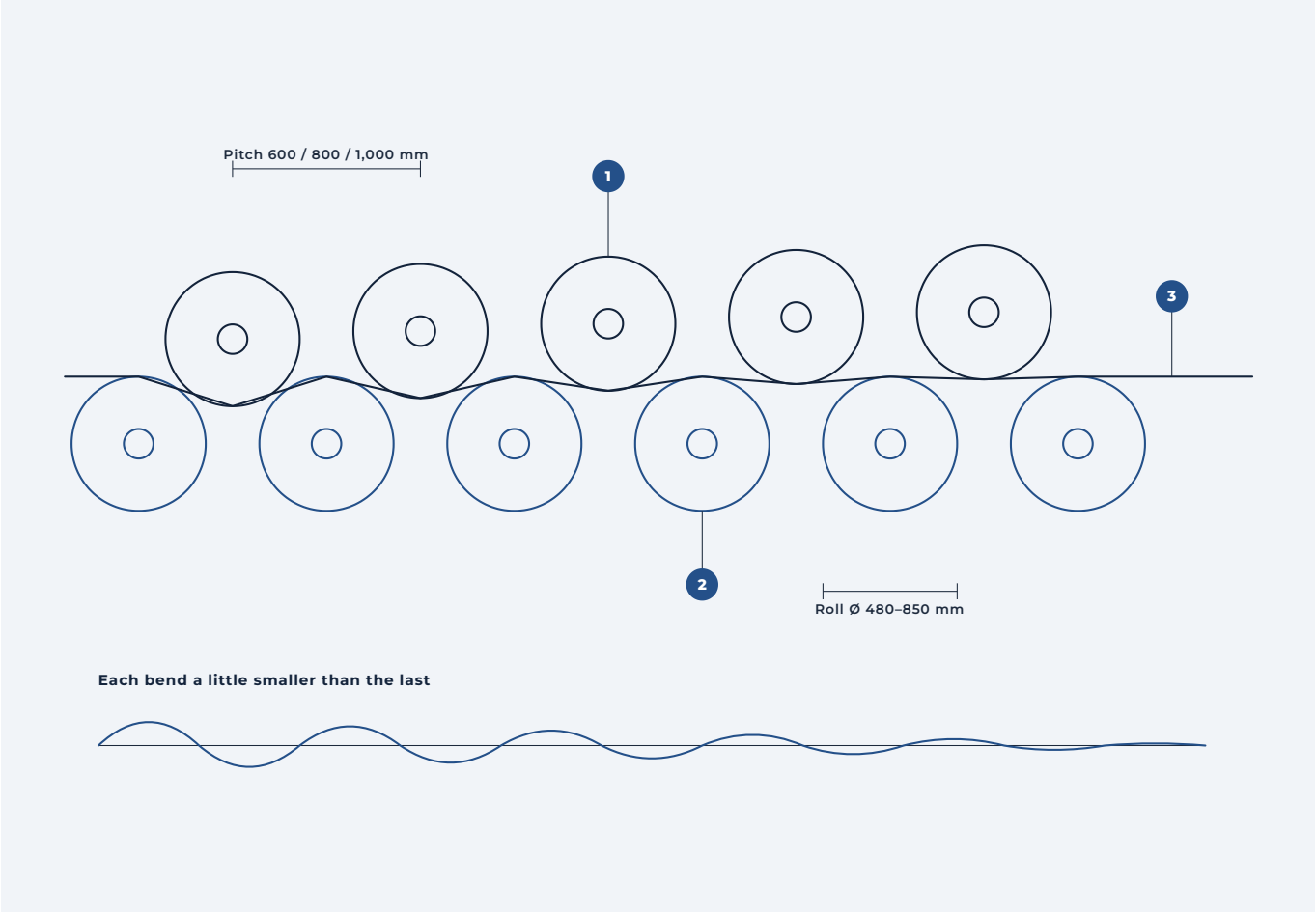


Straightening is bending: each roll bends the bar a little less than the one before, until what is left is straight.

Housingless straightening machines bring **high rigidity**, very short roll changes with Basket Technology® and multi-driven bottom rolls with no heavy gearbox.

Send us the bar sizes and the straightness you need. We will propose the straightener.

Bend it, bend it back. A little less each time.



Schematic of a straightening roll arrangement. Not to scale.

1 **Upper rolls**
Set the bending of each pass.

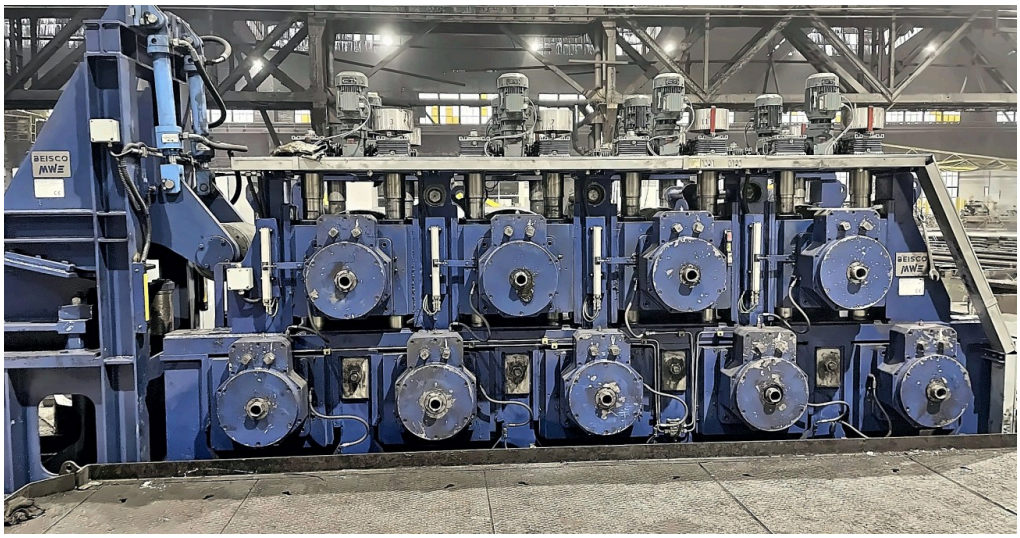
2 **Lower rolls**
Multi-driven, with no heavy gearbox.

3 **Bar**
Leaves the last roll straight.

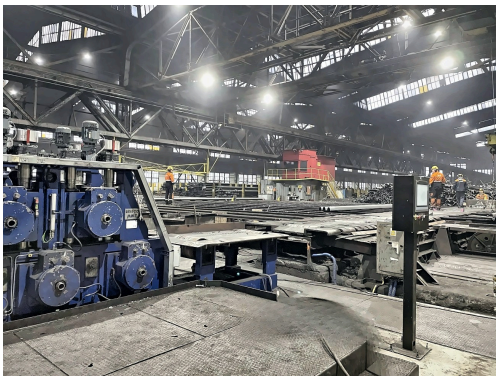
FIELD NOTE

Straightening sounds simple. Then you try it at 3.5 m/s.

Straightening machines in operation









KEY DATA

Pitch
600 / 800 / 1,000 mm

Roll diameter
480–850 mm

Straightening force per roll
500–2,000 kN

Working speed
0.75–3.5 m/s

Send us the bar sizes and the straightness you need. We will propose the straightener.

12

Meltshop mechanical equipment

DESIGN AND MANUFACTURING TO THE CUSTOMER'S PROJECT OR REQUIREMENT

Built for the hottest corner of the plant.

Meltshop equipment works beside liquid steel, under radiant heat, dust and shock loads.

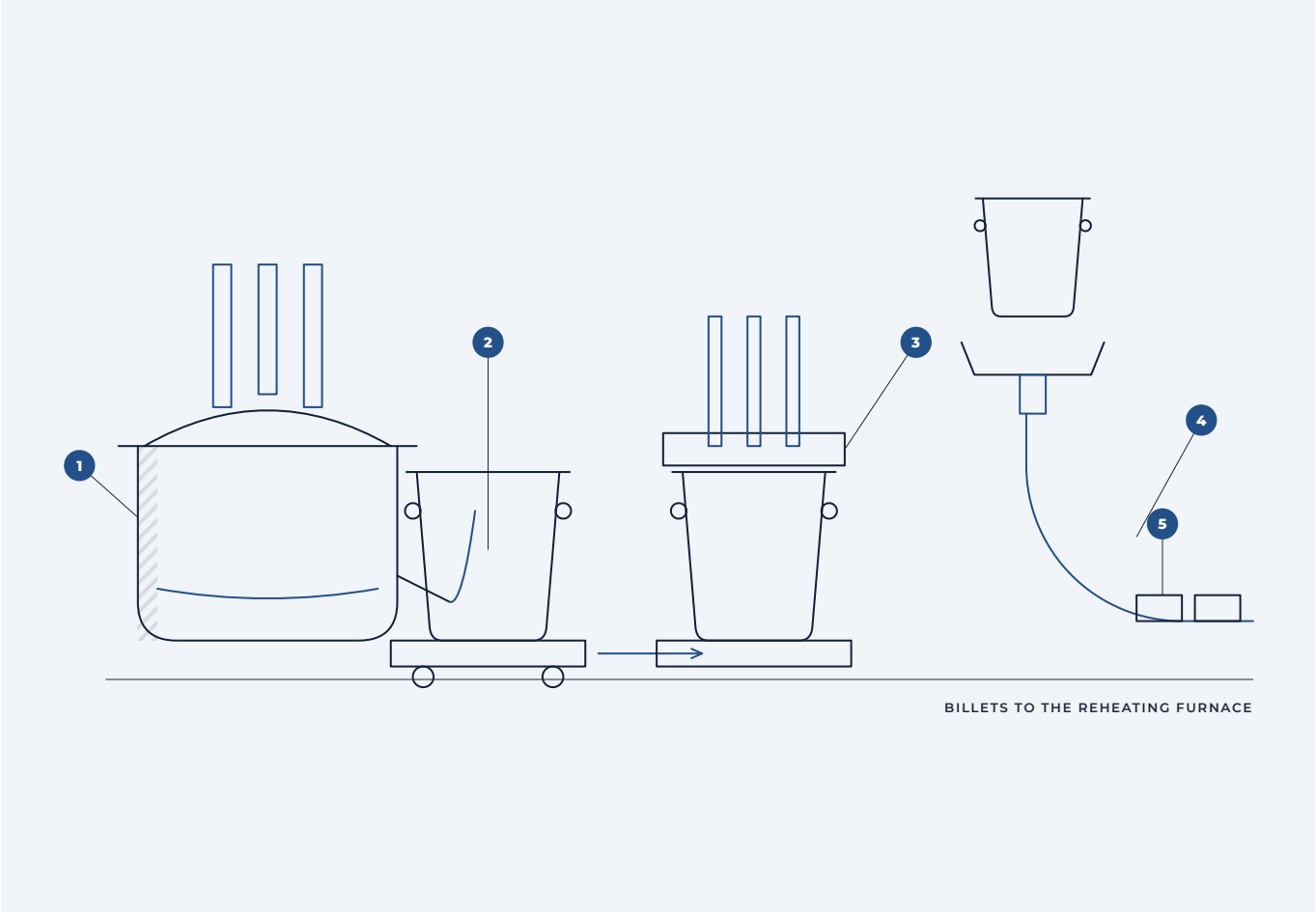


Nothing here gets a quiet day. A heat is charged, melted, tapped and carried away, and the equipment has to be ready for the next one.

BEISCO designs and manufactures meltshop mechanical equipment in accordance with the **customer's project** or requirement.

Send us your project or your requirement. We will design the equipment to it.

Where the steel is still liquid.



Schematic of a meltshop route. The mechanical equipment is designed to each customer's project. Not to scale.

1 **Electric arc furnace**
Scrap becomes liquid steel.

2 **Tapping and ladle transfer**
The heat leaves the furnace in a ladle.

3 **Ladle furnace**
The heat gets its final temperature and chemistry.

4 **Continuous casting**
Liquid steel becomes billets.

5 **Billets**
On their way to the reheating furnace, chapter 01.

FIELD NOTE

Liquid steel, at around 1,600 °C, does not wait for anyone.

Meltshop mechanical equipment





From design to commissioning.

Machines are one part of the job. The line around them is the other.

- Section mill, bar and wire rod mill lines: design, manufacturing and commissioning
- Revamping projects
- Engineering and training
- Erection and consulting
- Supervision and commissioning
- Meltshop mechanical equipment, designed and manufactured to the customer's project or requirement
- Rolling mill pass and guide design







Tell us about the line. We will tell you where we can help.

Or fill in the rolling mill questionnaire online: the line, the products, the output. We come back with a technical and budgetary proposal.

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