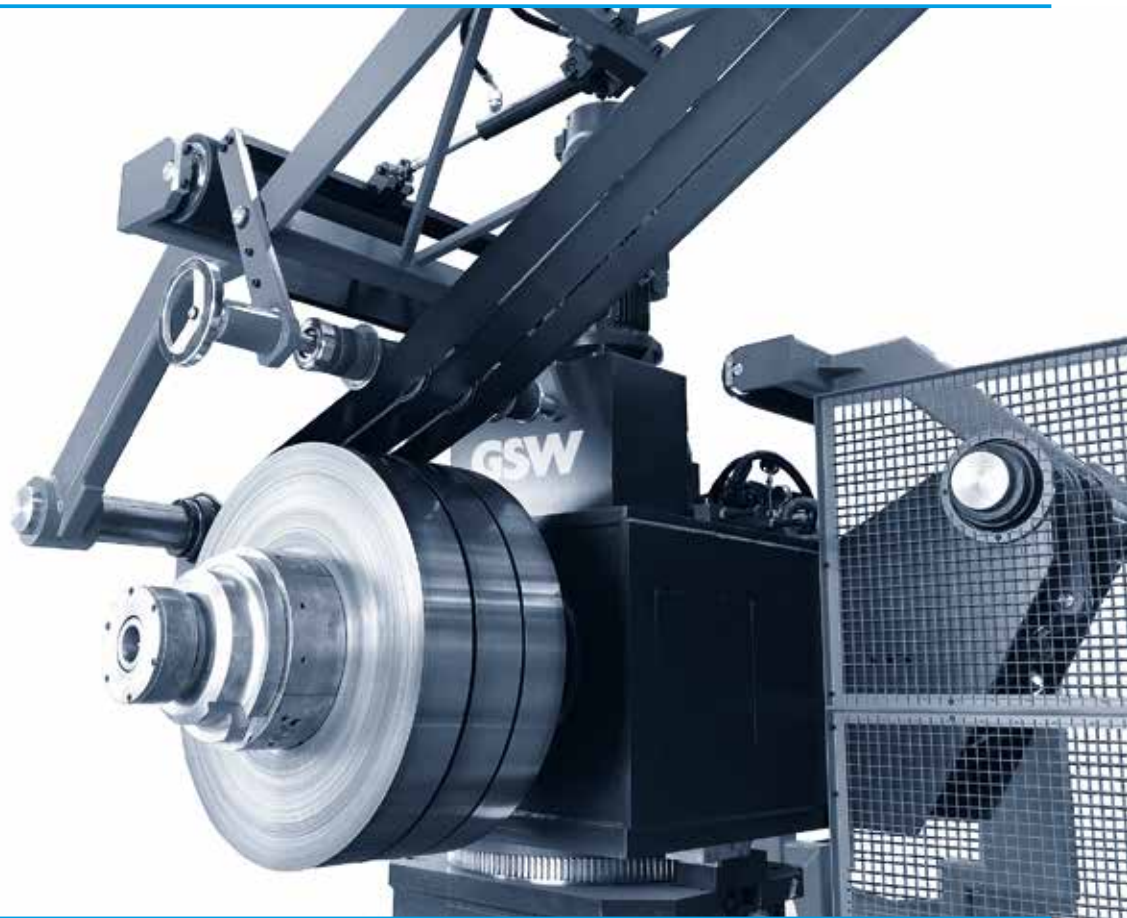


Passion for Sheet Metal



SYSTEMS
MACHINES
SERVICE
ACCESSORIES

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Introduction



Dear customers and friends,

“Sheet metal is best worked on with a system”, is one of the bold lines we use to attract customers during our shows and in our ads. These are not empty words. This quote presented by Klaus Walter, engineer and project manager at GSW, correctly describes our focus of work in the 21st century: systematic and always with a passion for sheet metal.

Klaus Walter is one of the many sheet metal fans who have stuck with us long-term. His experience and ambition are helping us every day to support our position as one of the leading coil processing companies.

In order to maintain this success as an entrepreneur, it was and remains my strategy to push for core competence rather than growth.

Regardless, the projects have grown, and the tasks have become more extensive. Today, we deliver turnkey cut-to-length lines with fully automatic stack handling. We supply the steel service with winding lines, build sandwich coil lines, help integrate added value with end-joining, punching, edge-trimming and more.

While this shows a lot of innovation, some things also remain the same, such as our individual machinery that ranges from a 150 kg coil reel to a 30 t upender to frame it, along with our accessories of smart products that support the metal stampers. Please, check it out for yourself.

With best regards,

Benjamin Schwabe

Company



18 250 good reasons to be happy

There could be nothing more appropriate than this headline, as in the summer of 2013 we celebrated our 50th anniversary – 18 250 days after founding our company. Actually, we mistakenly had forgotten to count in the 13 extra days of the leap years during those five decades. So, now we even had 18 263 good reasons to be happy.

Naturally, every company's history not only contains great moments and success but mistakes as well. At any rate, the founding year 1963 was correct. In that year on July 1st everything got started in Witten in the Ruhrgebiet area. Dealing with tools and smaller machinery in the beginning, we set sails for our own manufacturing only ten years later.

The company grew and kept broadening its range. 1983 another factory was built, this time in Kempen in the Niederrhein area. While manufacturing always remained the focus of business, the following decade also was used to try new projects such as opening a USA sales office, starting a low-cost segment, taking over a tool & die shop in Dresden and the Leinhaas' presses ...

[We at GSW live and believe in added value which is individual custom solutions with long term support](#)

Not every step we took was successful in the end. But every step helped us in some way, whether it was for learning or to sharpen our focus. Since the 2000s we have discovered the power of added value, and we have dynamically developed into a genuine system supplier. Today, Kempen is the location for our headquarters for manufacturing and administration. From here we start into the future. Consequently, the "Dynamics GSW" is to originate here.

Left: Our first own factory near Krefeld
Center: The shop floor back in the days – lots to do even then
Right: The new plant and headquarters in Kempen built in 2000

Independence? Absolutely!

To us Kempen is more than just a location. It represents a matter of highest importance to us: We do it ourselves. Our competencies, experience, and skills stay where they belong – in our own shop. Here is where we keep and extend them. Part of it was to keep developing our engineering to gain conceptual knowledge and strength.

We do have and maintain our own manufacturing, thus GSW is not reduced to mere assembly. This allows us to stay flexible for any customers' requests, and it keeps our highly precise work at top level. Our reaction times are fast, our daily broadened knowledge is that of real experts. The people handling the lathes, spraying guns and screw drivers have been with GSW for two decades or longer. They learned their occupation at GSW, they are here to stay. Also, we share our knowledge by training new technical apprentices.

We want to act powerful, freely and with growing knowledge. Therefore, our economic self-sufficiency – despite our rather small enterprise size – also is based on our own book keeping and controlling, electrical engineering, quality management and customer support. Further more, our commercial apprenticeships, and even authorized CE-auditing underline our striving for independence.

Of course, every project begins with a sale. The actual work though is to sustain success. It takes a lot of experience to achieve this. Even though sales is a matter of the boss it also takes the job of a highly qualified staff with years of expertise.

Especially, with large and complex projects, an intensive and continuous support is mandatory. So, we have implemented our own project management, and what seemed somewhat odd in the beginning is now part of our routine.

Left: Construction engineers' realm. This is where experience and modern times combine
Right: 18,263 good reasons to celebrate. A snapshot of our anniversary

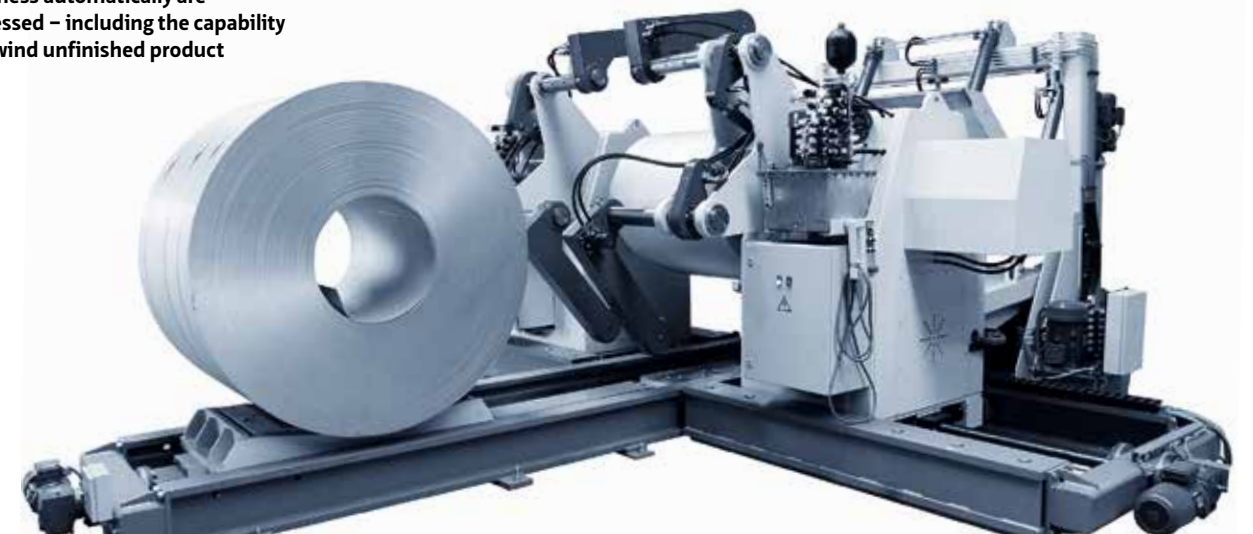
"Sheet metal is
best worked on
with a system."

Klaus Walter
Construction Engineer
and Project Manager
for Machines & Systems

Systems

At GSW we live what is referred to as "added value". That's why we offer customized and holistic solutions that go far beyond pure machine-building. We design products for your individual needs, and we are side by side with you from the project stage to maintenance service.

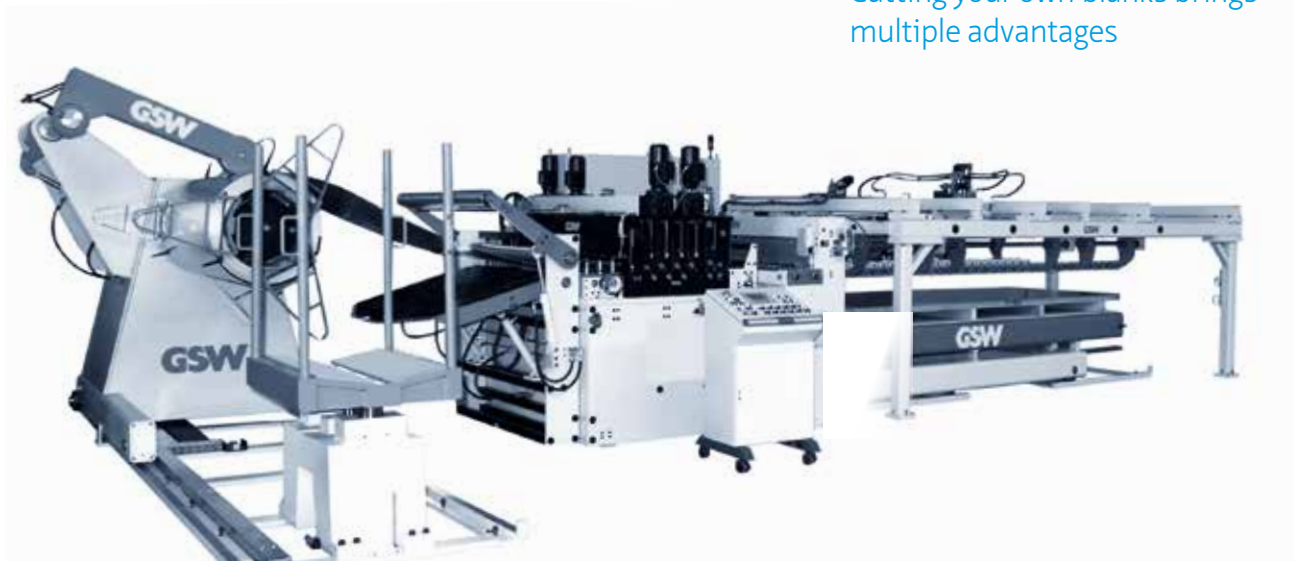
Uncoiling Line XXL:
2 m wide 30 t-coils of up to 9 mm
thickness automatically are
processed – including the capability
to rewind unfinished product



Systems

Cut-to-length Lines

Efficiency. Home Made:
Cutting your own blanks brings
multiple advantages



High-strength materials of steel or aluminum, highest demands to surface and stacking quality – this is what the Cut-to-length Line by GSW is best known for. Thanks to intelligent control possibilities most of them work in compact design: coil reel with electronic brake regulation – feeder-straightener with positioning axis, shear, and stacker. For high throughput we use flying shears with servo axis, or we work start-stop with looping pit and high-speed servo feeds.

By implementing punching units or marking systems we even increase the functionality of our machines, so that one system offers solutions for more than one product. We start with narrow slit strip (with optional camber removal) and only stop at 2000 millimeter wide heavy-gauge coils.

Fully synchronized coil processing – without loop and yet without scratches. This line produces perfect sheets of up to 4m length, from galvanized to stainless steel



Small is beautiful: a high-speed line for 180 laminations per minute. Extra: a rolling soundproof cabin

Easy operating.
Great flexibility



Switching from sheet to coil material can reduce your costs significantly. Instead of continually paying for the service of sheet material suppliers, you can make your own blanks. And, storing only a number of coils saves floor space. The blank size is tailored – without scrap. By using high-end straightening with specifically adjustable

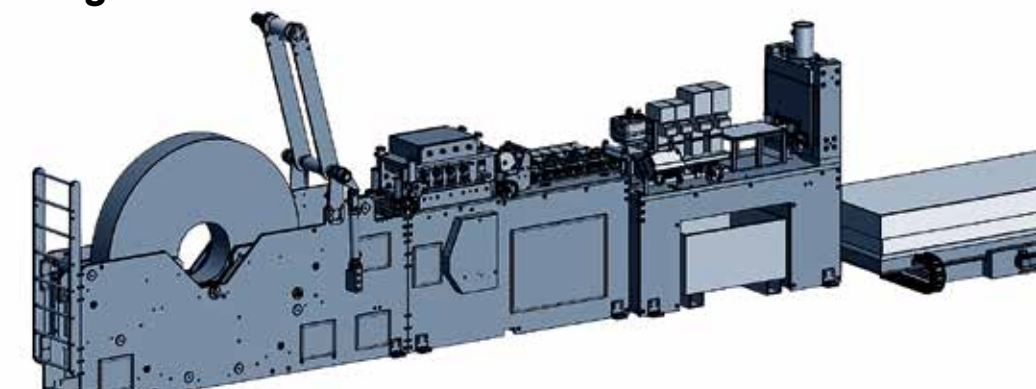
settings, the blank quality can improve. So you have better end-products and less rejects. Manufacturing now can be planned with shorter lead times – ultimately leading to just-in-sequence sheet supply. Processing times descend and interim storage becomes unnecessary.

Technology for immaculate kitchen furnishings: The 6-high leveler provides tension-free blanks and preserves extremely delicate surfaces

SPECIAL SOLUTIONS

Steel Grating Manufacturing

- All-in-one system for heavy-gauge slit strip of max 250x6 mm
- Integration of punching, marking and layer-stacking with servo axis

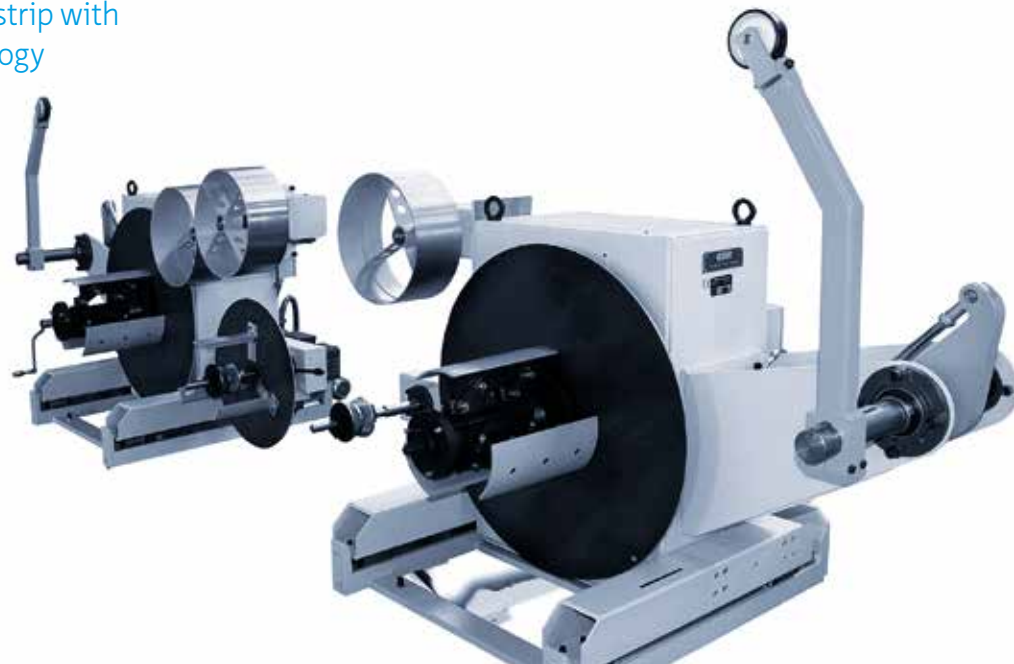


Systems

Coiling Lines

Surface finishing of coil strip with reliable winding technology

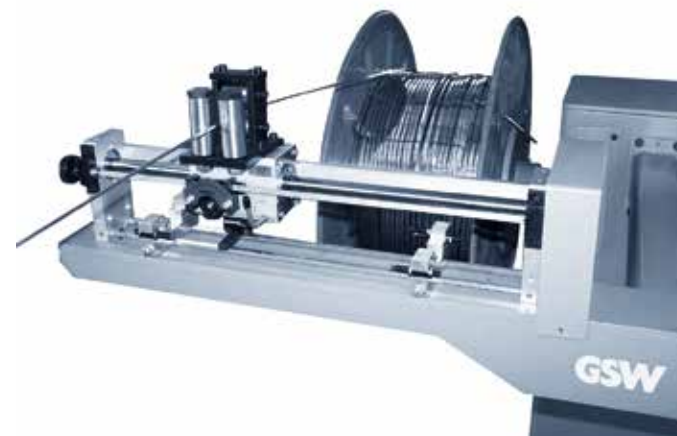
Custom technology for the grinding industry: our sophisticated coiling system with reversing technology for different grinding angles, with intermediate coiler to handle spacer band



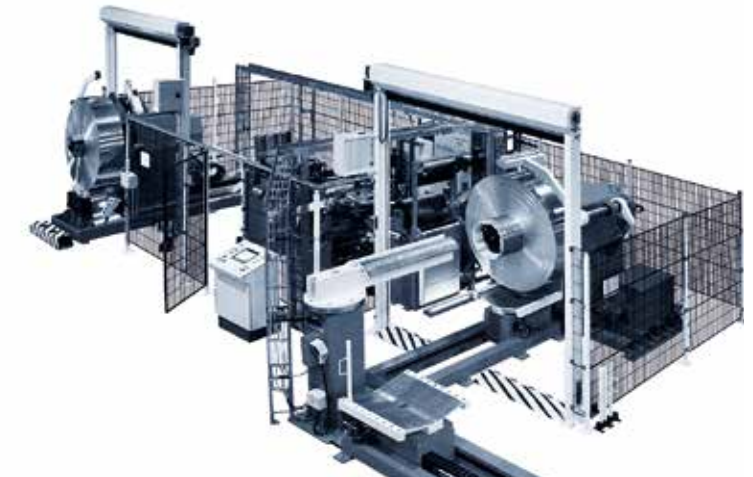
When working the coil surface, the strip usually must be wound with steady tension between uncoiler and recoiler. This is what our coiling lines do. Our customers are either producers or investors for high-value systems that clean, brush, grind, or allow coil coating different materials in an industrial manner. These customers do not want to worry about the strip run. This is why our coiling lines work with precision as a priority. In order to guarantee a clean wound in all phases of the process, we work with high strip tension and special monitoring and deflecting systems. This calls for large driving forces starting with even small cross sections. Only machine components that are built torsion-resistant and high-strength will absorb and convey all that

power. So, we adapt our design accordingly. To ensure an easy processing or the successful selling of the finished coil, it is necessary to rewind with highest layer-to-layer precision. Therefore we use laser-based edge monitoring control together with motorized traversing on high precision rails for the recoiler. This allows us to correct any possible deviations any time.

Cross-wound: momentum-controlled recoiler with layering unit for flat wire



Making large coils out of remnants to reduce downtime: highly automated system with Pre-Straightener and Coil End-Joiner; Recoiler with precision edge control and coil handling equipment



Making large coils out of remnants to reduce downtime: highly automated system with pre-straightener and coil end-joiner; recoiler with precision edge control and coil handling equipment

It mostly is the threading and connecting of a new strip that are challenges within the process. We have designed our own coil end-joining equipment to cope with that: The cutting edges are efficiently welded together while the welding seem can take

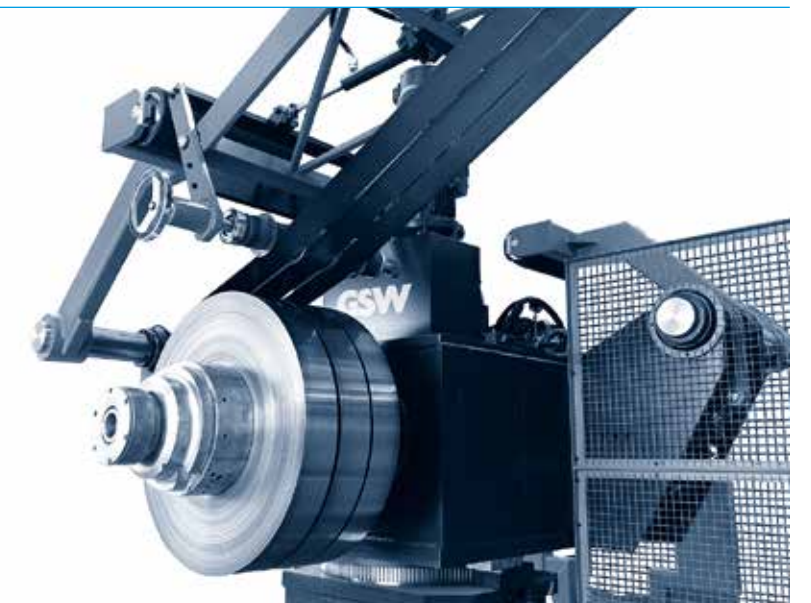
high pull-forces. For customers with a higher demand for automation, we offer sequential controls for positioning, cutting and clamping which is supported by servo driven welding swords.

We trim coils of minor edge quality with C-type slitters mounted on high-precision rails. Our emphasis is on being on top of all related processes for which our coiling lines belong to our core competency. They are in fact 100% GSW.

SPECIAL SOLUTIONS

Technology for Annealing Ovens

- First of its sort: high-performance recoiler as double-ended machine
- processing of high-strength steels with greatly reduced changeover time



Systems

Slitting Lines

Flexible organization of your production while avoiding long lead times and high costs for small-batch orders



- from a simple, manually adjusted slitting line for 1 mm materials, 30 m/min line-speed and 5 t coils up to large systems
- with automated coil handling, threading or tool exchange
- 5 mm thickness and 400 m/min production speed

Slitter outlet side with inspection table.
Clean results even for very narrow strands

Combined Cut-To-Length & Slitting Lines

- significant reduction of floor space and material costs per ton
- even smallest batches can be provided instantly

Greatest flexibility for your own blanks – made out of only a few mastercoils

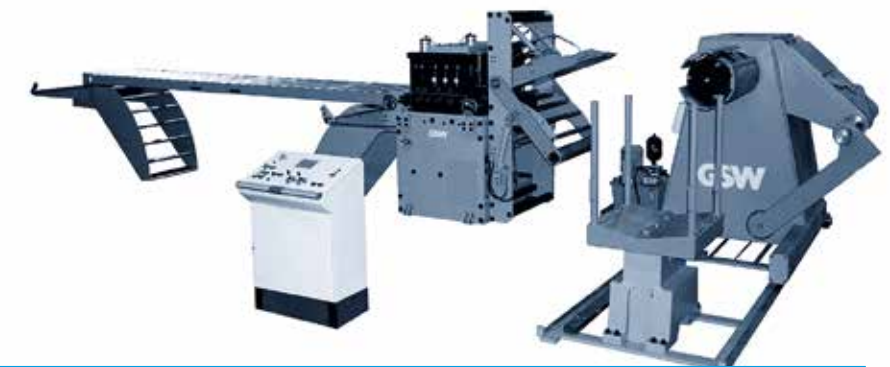


Making steel girders takes a lot of iron: heavy-duty system for processing 20 t coils with 1500x6 – or 800x8 mm

Coil Feed Lines

We deliver flatness from coil. The coil-set is removed – sometimes with additional stress distribution capability. The positioning happens accurately and at given number of cycles. To serve your very need concepts and performances are specifically adapted

The outer skin is inside: 10 t coil reel for momentum-controlled bottom pull-off, with high-performance straightener



Conventional Design

- for application with high output and delicate material surfaces
- pull-off coil reel with straightener and servo roll feed

An automative "standard": No room for a loop but 20 parts per minute – even at 1500 mm length

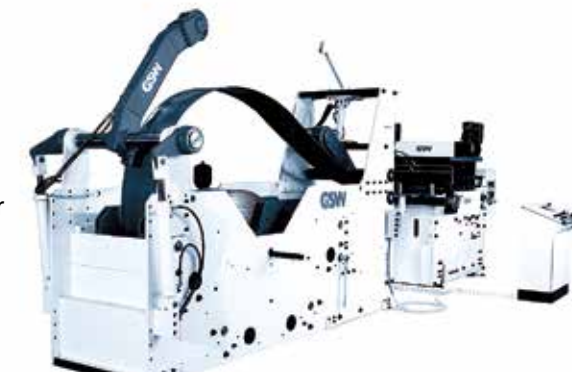


Compact Design

- a perfect combination of space efficiency and dynamics
- driven coil reel and feeder-straightener

3:1 Design

- safe and fast handling of thick and narrow coil stock
- 3 machines in 1: coil cradle for pay-off with feeder-straightener combination



Muscle-bound blanking: 8 t line for higher strength steels. 650x8 mm are fine with less than 6 m room

Systems SPECIAL SOLUTIONS

Container Line

- Upender for direct coil transfer to coil car with integrated rotating function
- flexible loading onto coil reel to ensure correct pay-off position at all times



Some single-product manufacturers, such as in the food and beverage can industry, face challenges to their coil logistics that cannot be handled using a single overhead crane or fork lift any more. Here is where we help.

3:1 Flex-Position Feed Line



Heavy-gauge coil lines mostly process slit strip. This system can do that even for 12mm thickness and off-centered.

- for up to 2 m large and 8 t heavy coils
- approx. 20 t total system weight
- for off-centered stamping: easy side-adjustment on linear rails

Sandwich-Sheet Feed Line

Heat shields are made of two outer steel layers with a central insulation filling. Our feed line has been specially adapted for this job, so the threading is ergonomic and the positioning is accurate, even with three stacked strips.



- simultaneous feeding of three coil materials
- feeder-straightener with all roll drive for synchronized parallel feed of all three strips

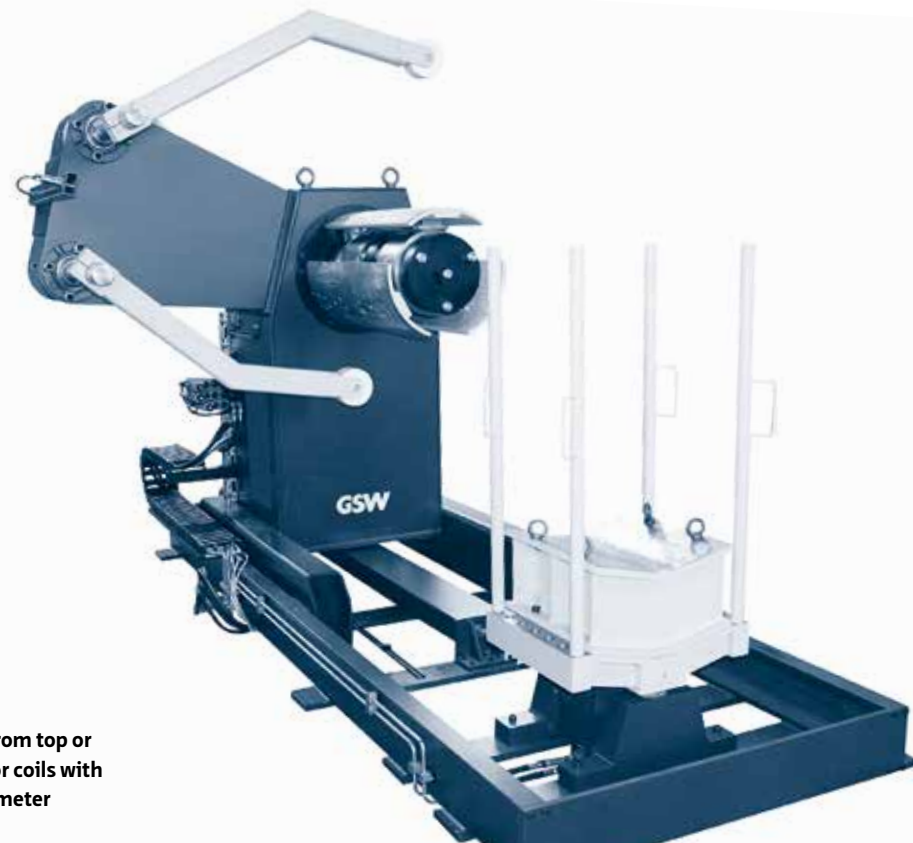
"I am not afraid of separation – pneumatic, hydraulic or electric style."

Philipp Geerkens
Construction Engineer
and Project Manager
for Machines & Systems



Machines

There is a lot of room between an Alligator-Straightener and a Zigzag Servo Feed. In the beginning we developed a production-oriented modular product line of individual machinery. Today this room is filled with a powerful variety of highly flexible and efficient solutions all about coil – with all advantages to the OEM or to the end-customer.



Coil reel for pull-off from top or bottom – designed for coils with up to 2m outside diameter

Upenders

Upenders are designed to safely tilt big and heavy coils or tools – from horizontal into vertical position and vice versa



20t upender for up to 2300 mm large coils. Sliding keeper swords for different widths

- simple and fast material handling with easy loading via fork lift
- avoiding chains or flat eyes
- preserving the coil sides and eyes
- no more hazardous turning methods
- additional 180 degree synchronous rotation via gear rim with rotary drive
- up to 30t capacity for tilting and rotating function



Literally, added value: inside pouches for machine transfer with fork lift, coil nest with protective cover, pallet lifting bar for safe storage of unfinished coils

Machines

Double- and Single-Ended Coil Reels

Coil changeover on the double: Our double-ended coil reels



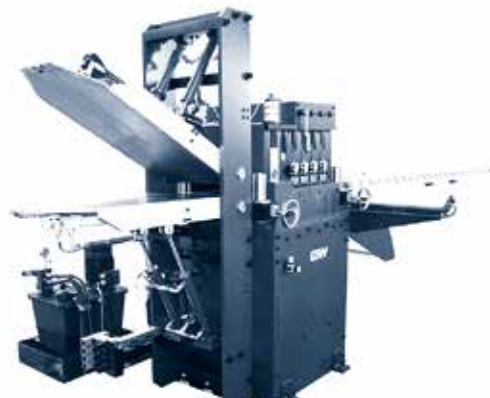
For coil processing with increased productivity

- LH: light design up to 1000 kg
- MH: mid-size design up to 6000 kg
- SH: heavy design up to 30 000 kg

Straighteners

High quality, extremely simple handling, excellent price-performance ratio

- RMA: with GSW since 1968 – making us technology pioneers
- RMZ: precision straightener with enormous power



The alligator head. Fast set-up. Easy cleaning

Levelers

Fine sheets for finer furniture: This 21-roll machine removes trapped stresses over 800 mm width



When straightening becomes core competency

- FRM: stress distribution for thin sheet of up to 2 m width
- RMB: our solution for high-strength steels

Feeder-Straighteners

Our power pack for more safety: This 10-roll machine processes coil material with 650 x 5,0 mm that form guardrails for our roads



GSW developed their first feeder-straightener with full piloting functionality in the 1980s. This machine already was provided with measuring wheel feed monitoring

- VRMA – combining roll straightening with clock feed
- Piloting with up to 120 SPM

Shears

- pneumatic shears for up to 500 strokes and small to medium cross-sections
- hydraulic shears for precision cutting with up to 80 t force

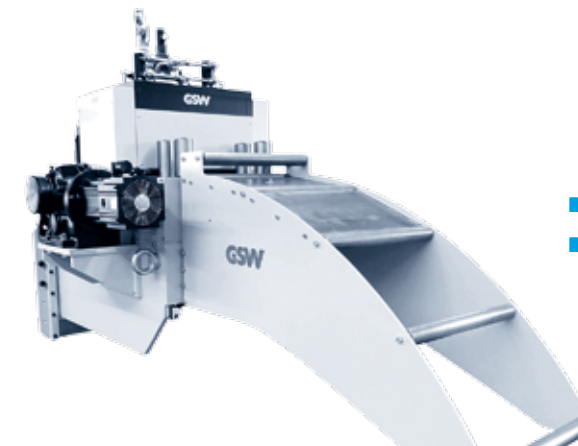
From 8 mm stainless to 500 cuts per minute – GSW fears no separation!



Compact and concise: 1500 mm wide hydraulic shear as part of a cut-to-length line; with transfer table and hold down unit

Servo Roll Feeds

Power-feeder with feed force for 4000 mm² coil loop, of course, with motorized height adjustment

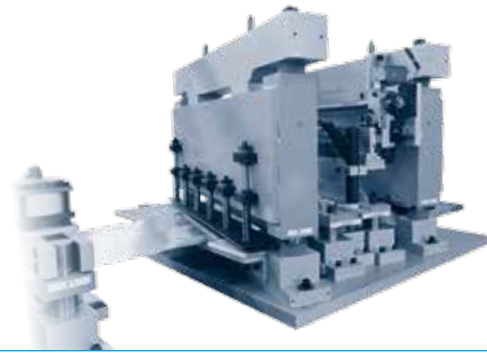


Precise and fast cycles – even in rough and continuous operation

- highly dynamic acceleration
- machined counter balance for the top roll to ensure perfect parallelism

Machines SPECIAL SOLUTIONS

Coil End-Joining Station



Sequence controlled system with high-precision cutting and positioning equipment as well as servo driven welding head

- perfectly coordinated: hydraulic shears and strip clamps for individual and joint movement
- smooth weldseams for full-load connections

Reel-Straightener Combination

With pull-off coil reel and top-mounted straightening head with direct drive. Saving space without giving up on functionality

- the mounting of the straightening head at an 11 o'clock angle provides extra space and ergonomic machine operating



Dual Double-Ended Coil Reel



With four heads for strip pay-off in two levels with yet faster set-up

- ready for processing of compound coils
- heads arranged for free run of both strip-loops

Multi-Material Shear



- hold down for best cutting results
- extremely compact design for easy integration

Hydraulic shear with "brains" and power: approx. 20 t cutting force meets infinitely variable precision clearance adjustment. Safe processing from aluminum to dual phase steel

Power Threading Unit with Coil Breaker

Pre-banding and pre-straightening in XXL

- threading 2000 x 9 mm higher strength stainless steels from top or bottom
- four-roll coil breaker for powerful removal of coil set



Pull-Thru Straightener Plus



With active roll deflection for camber correction of wide stock

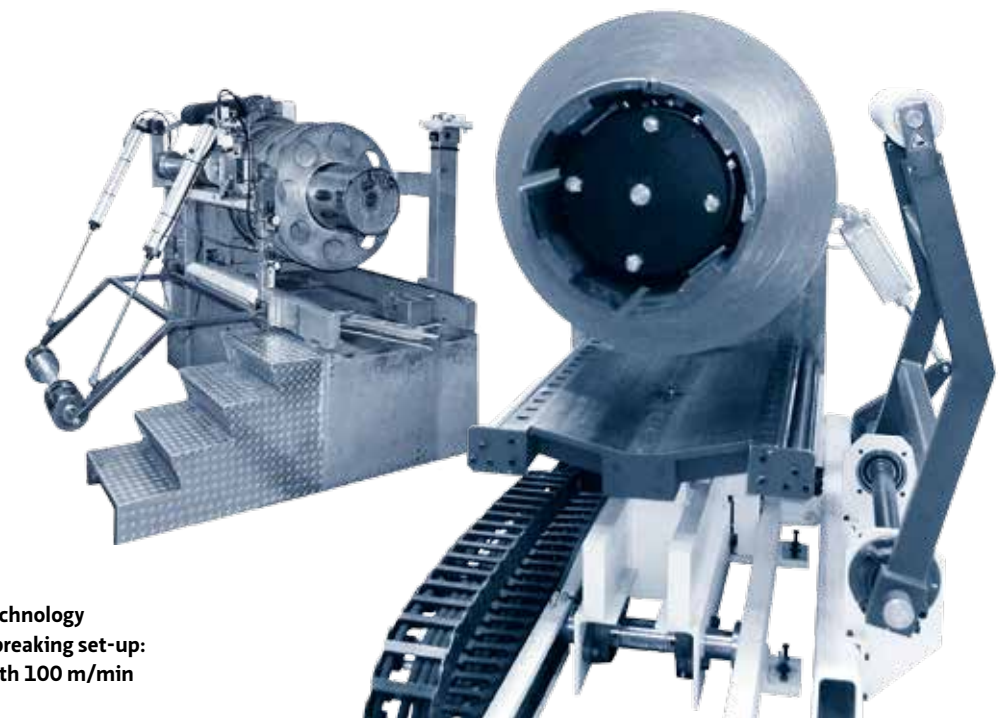
- camber removal from centerline
- motorized side movement via subbase for off-center processed coils

"We don't know
our machines –
we're insiders."

Andreas Schröder
Service Manager

Service

Our service specialists have a double mission, namely modernization and safety. We repair or replace your currently active production line components and bring them into shape for more throughput and better operator safety. We help you with non-GSW machinery as well and we undertake the CE conformity for you.



New rewinding technology
instead of sweat breaking set-up:
circular results with 100 m/min

Service



Run-Off. Sheet metal fan Hubert Albrecht is checking the automatic strip clamping function. Besides the new recoiler, the slitting line now has a modern strip brake with semi-automatic processing of the strands, a new line safety and peripheral guarding

“Modern days have brought certain things that nobody wants to miss anymore – like our Air Feeds.”

Michael Paprota
Assembly Technician
for Accessories

Maintenance means to care

It is our goal to help you getting maximum performance out of your machines and production lines. Consequently, we offer service contracts for every machine or system sold. Our service technicians either work in our assembly shop, or they have been working as professional assemblers for years. They know every GSW-specific part and have learned to check those machine areas that usually are not part of a maintenance routine.

Thus subtle fatigue and upcoming attrition is now detected pro-actively, meaning that future repairs or overhauls can be planned long-term.

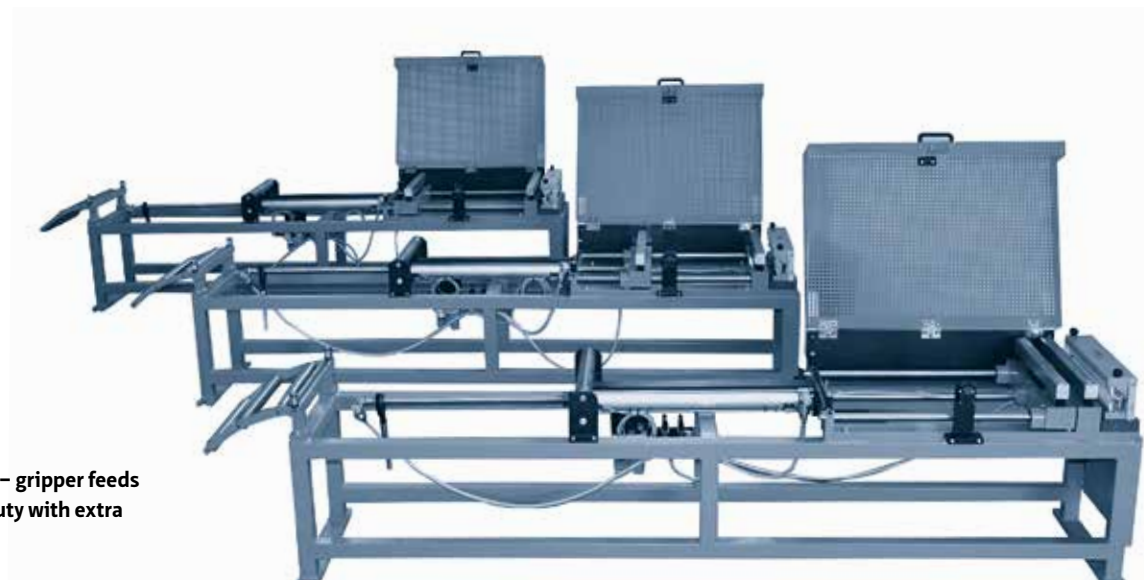
Does it have to be replaced? Not always

Instead of investing in new parts a partial or total overhaul can pay off for you. That is what we are after, because the greater the first-time investment was the bigger the savings of a repair may be. Take high-end slitting or coiling lines for instance – here, replacing new clamping arbors, strip brakes, separating shafts and slitting components can keep productivity and quality up while expenses stay reasonable.

With individual machinery too, replacing can have clear economic advantages. In the process, we exchange weak or outdated coil reel drives, modernize control concepts, refurbish battered upenders and shears, or we repair worn out straighteners.

Accessories

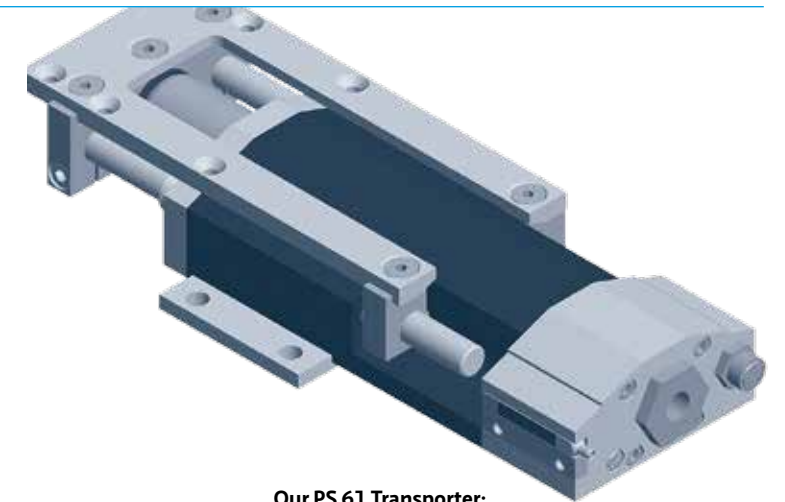
Passion for sheet metal also contains process improvement and press automation. Our accessories provide the appropriate products. Our program has been refined over the decades and is now offering the quality and variety that meet forming's demands.



Long reach – gripper feeds for heavy duty with extra long stroke

Linear Parts Transporters

In the rugged press room environment, our linear parts transporters are the most durable alternative to belt conveyors. Only GSW offers eight different models, setting a worldwide standard with their compact construction and powerful performance



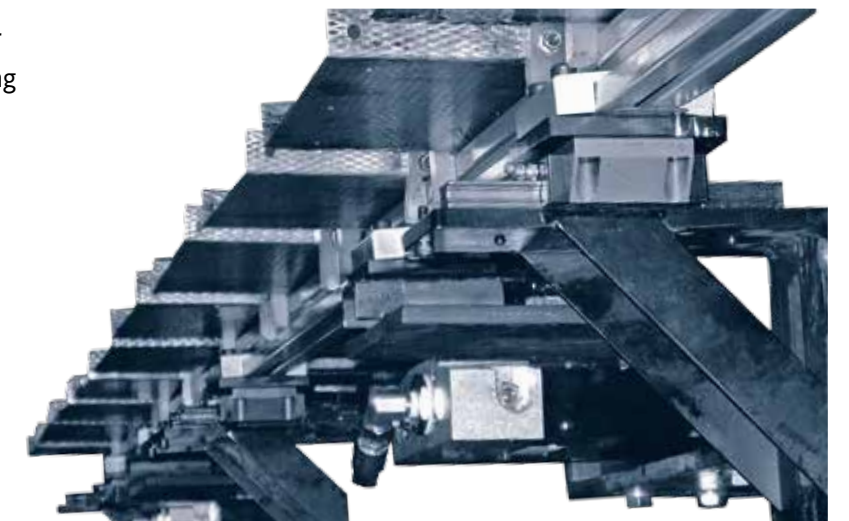
Our PS 61 Transporter: the advancement of the PS 60 bestseller

Powerspeed Multiple Tray System (PSKS)

- extreme potential to save equipment costs
- only one or two linear transporters per press (depending on bolster size)
- replaces multiple conveyors or high labor costs for manual scrap removal
- very low maintenance costs
- shortest set-up at change of tool (only tray exchange)
- flexible mounting on either front, or back of press
- very little wear inside the transporter as linear bearings take away torqueing damage from off-centered loads
- always correct choice of tool application as unit size only is determined once (depending on Press size and max amount of trays)

Instead of mounting one or more transporters to each die, the PSKS features one unit only – mounted directly to the face of the bolster. A height-adjustable mounting bracket allows flexible usage with multiple tools and dies. Scrap trays in different sizes are the only extras needed.

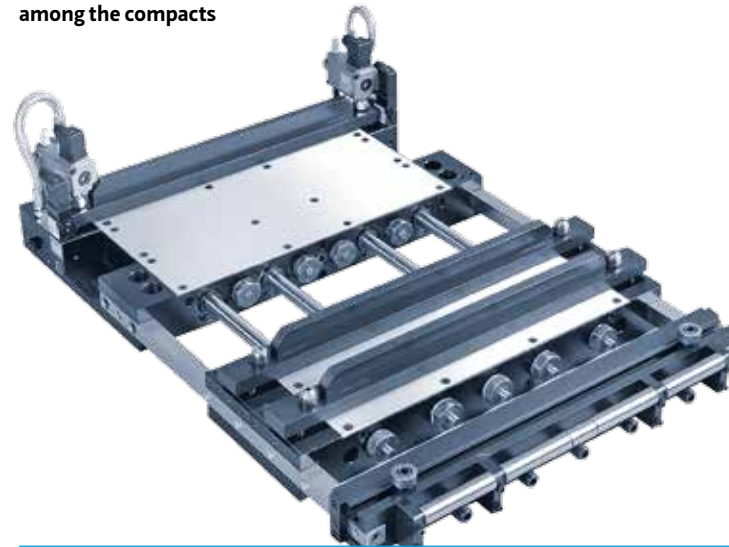
Power-PSKS. Two PS100 transporters, each with five trays, remove tons of scrap out of an 800 t stamping press with a 4 x 3 m bolster



Accessories

Air Feeds

Buff – Air Feed 2TK –
the most powerful
among the compacts



“Old technology” – not replaced until today. Over 90 different models show that even today demands for costs, material geometry or composition as well as the mounting situation clearly justify the use of air feeds

- solid design
- compact built, very versatile in design, simplest mounting
- to feed tube, strip, profile materials as well as wire, steel, paper, cardboard or fabrics
- operating at lowest costs
- great feeding accuracy and repeatability

Coil Handling

Safety for the workers, no damage to the coils: our hoists are sturdy and easy to use – for years at a time

- C-hooks in special designs
- Coil tilting hooks



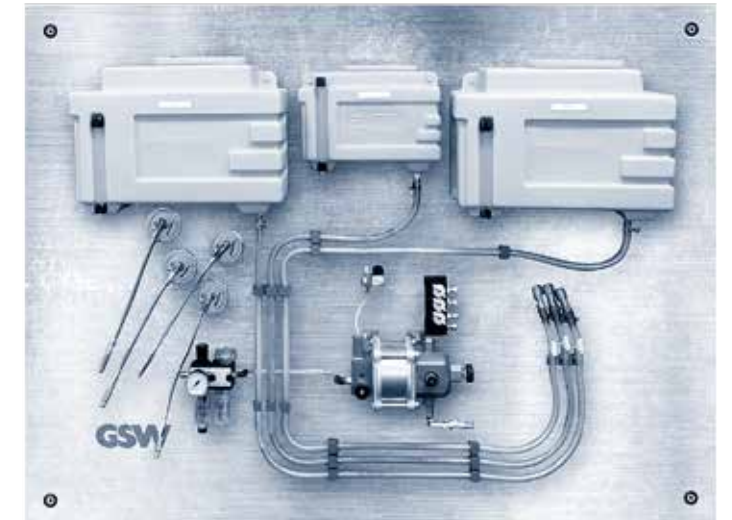
At grips – coil
take-up via crane
with shackle

Lubricating Technology

Lube jobs done right ...
roller- or spray solutions
for all applications

- specifically selected product for contact and non-contact lubricating
- high-performance roller lubricators
- powerful spray lubricators
- large nozzle variety

The Triple – three
reservoirs for different
fluids with central
pump and manifold.
Exchange nozzles with
magnetic fastener



Blow-Out & Cleaning

Cleanliness pays off over time. GSW nozzles prove this on a daily basis. Always perfectly fitting the application, these components free any machine from burrs, oil and dust – quickly and with little noise

- self-adherent blow-out fitting BOBBY with magnetic foot
- high blow force nozzles with lowest air consumption and noise level

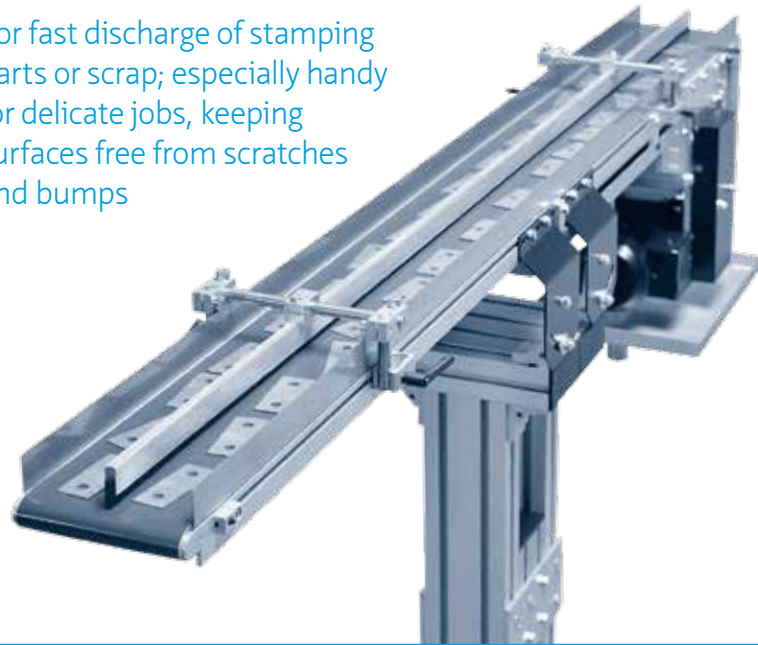
Left: One for all –
universal nozzle for
large surfaces
Right: “Turn-key”
BOBBY with ball tap and
flex hose, making it
applicable as movable
coolant armature also



Accessories

Conveyors

For fast discharge of stamping parts or scrap; especially handy for delicate jobs, keeping surfaces free from scratches and bumps



Perfect set-up – parts conveyor with central separating bar

- compact build
- different widths available
- high rigidity even for parts discharge from big-bed presses
- grooved side channels for flexible mounting of stand systems or material guides

Die Handling

Making the exchange of tools and dies faster and safer!

- ball and roller bars
- bolster extensions
- multi-directional movement
- low self-weight thru aluminum case
- little rolling resistance

Be on a roll – durable ball bar for permanently easy movements



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Sheet metal fans since 1963.