

## Concept: ProfiLine Coil Lines of the A-Series in Long Space Version



Coil lines and blanking lines meet all the requirements for both automotive and supplier industry. You want higher production rates and lower costs. You want reliable equipment with a high level of uptime. You want parts of the highest quality.

The ProfiLine systems solution offers you a comprehensive, coordinated total concept consisting of production-tested modules, from which you can expect the highest levels of uptime and quality.

Coil lines and blanking lines meet all the requirements for both automotive and supplier industry. The A – series offers a coil width range from 1,600 mm/62 inches

up to 2,150 mm/84 inches and thickness range from 0.4 mm/0.02 inches up to 6 mm/0.24 inches. Coil weights from 25 metric tons/56,000 lbs. up to 35 metric tons/78,000 lbs. permit processing of coil material for a variety of components.

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### PROFILINE ADVANTAGES AT A GLANCE

#### RELIABILITY:

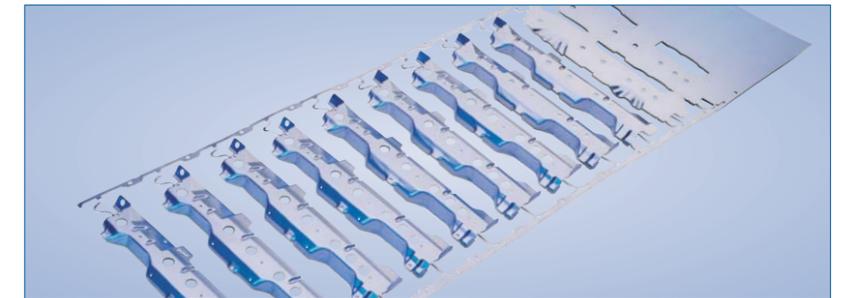
- The systems and components of the Schuler ProfiLine consist of only tested and proven solutions

#### EXPANDABILITY AND DELIVERY TIME:

- Schuler ProfiLine presses and components are "thought out in advance" and permit short delivery time and easy expansion or retrofit.

#### COST-EFFICIENCY:

- Optimal cost per piece thanks to a very favorable price-performance ratio



Flexible coil line: Blanks for class A parts or strips for a ProgDie press

### Designed To Give You More Advantages

#### OPTIMIZED COORDINATION OF THE ENTIRE LINE

- high production rates due to total integration of all line components

#### VARIABLE DEGREES OF AUTOMATION

- all line components are fully compatible, both mechanically and electrically
- shortest possible set-up times can be achieved
- adapted both to the plant logistics and the production requirements

#### MODULAR LINE CONCEPT

- optimum configuration for every application using tested components
- defined interface points to the other ProfiLine components

#### WIDE RANGE OF APPLICATIONS

- coil lines in the A-Series are flexible in application for the most requirements
- manufacture of blanks with blanking presses or swiveling shears
- manufacture of functional and structural parts and/or class A parts for both transfer and progdie applications

#### CONTINUOUS CONTROL ARCHITECTURE AND VISUALIZATION FOR ALL LINE COMPONENTS

- simple training of line operators
- simple and fast fault correction/debugging
- standard line documentation
- comprehensive service concept for the entire life cycle of the line
- online diagnostics for the entire line

**Uncoiler: Strip Width and Coil Weight**

Strip width [mm/inch]	AC-UAL 300	AC-UAL 360	AC-UAL 470
	Coil Weight [metric tons/lbs.]		
1,600/62	25/56,000	30/67,200	-
1,850/72	25/56,000	30/67,200	-
2,000/78	25/56,000	30/67,200	35/78,400
2,150/84	-	-	35/78,400

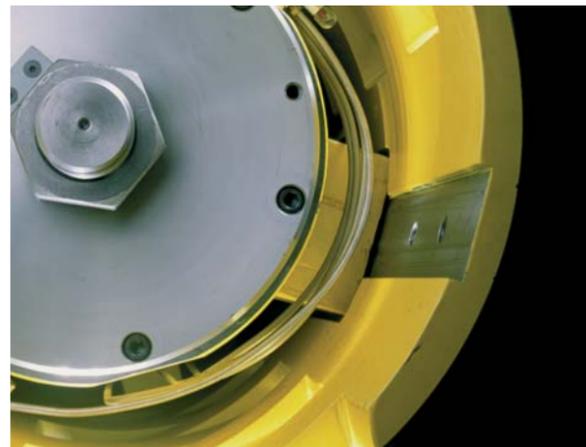


**Uncoiler and Loading Saddle**

The decoiler is designed for coils up to an outside diameter of 2,150 mm/84 inches. The hydraulic loading saddle can be raised and lowered. It can also be optionally equipped with hydraulically driven coil support rollers which enables the coil to be pre-positioned while simultaneously preventing the leading edge of the coil from springing open. The rollers also serve as in-feed support. Manually installed props prevent tipping of narrow coils during movement.

**OPTIONS: COIL EXPANSION**

- Cast iron segments for the expansion range 570 to 630 mm/ 22.4-24.8 inches for larger inside coil diameters
- Interlocked segments for the expansion ranges of 470 to 530 mm/18.5-20.8 inches, or 570 to 630 mm/22.4-24.8 inches enable the coil to be expanded in a circular fashion. This gentle handling of the surface is especially effective for the processing of thin or soft materials, like aluminum.
- Clamping devices provide more flexibility for a wider variety of coil inside diameters. The expansion range of 470 to 530 mm/18.5-20.8 inches at cast iron or interlocked segments can be expanded to 570 to 630 mm/ 22.4-24.8 inches.



The pick-up segments for the coil are cast-iron construction. The expansion range is 470 to 530 mm/18.5-20.8 inches. The low-wear hydraulic expansion is performed via sliding wedges.



**Snubber Roller**

The hydraulically driven holddown snubber is strategically located in the center of the coil. The central arrangement on the decoiler ensures that the axial position of the snubber roller remains parallel, and prevents a lateral displacement during decoiling.

The standard method of infeeding for coil lines in the A-Series is from above. The Feed Wedge is an option that allows infeeding both from above and below.





*In addition equipped with a shear, blanking press or hybrid blanker and stacker coil feed lines of the A-series can be used as blanking lines. The picture above shows as blanking line that is dedicated to produce aluminum blanks.*



**Reliable Straightener Drive**

A reliable and virtually maintenance-free frequency controlled AC motor provides high-performance dynamics. The driven upper and lower pinch and straightening rollers supply the forward drive traction for reliable strip transport. They also allow the strips to be rewound in operation. For enhanced tractive power, all-roller drive is also available.



*All feed rollers and straightening rollers are hardened and ground for long life.*

**OPTIONS**

- Motorized adjustment with repeatability
- Remote push button-operated motorized adjustment
- Motorized, automatic adjustment via PC-based PLC control

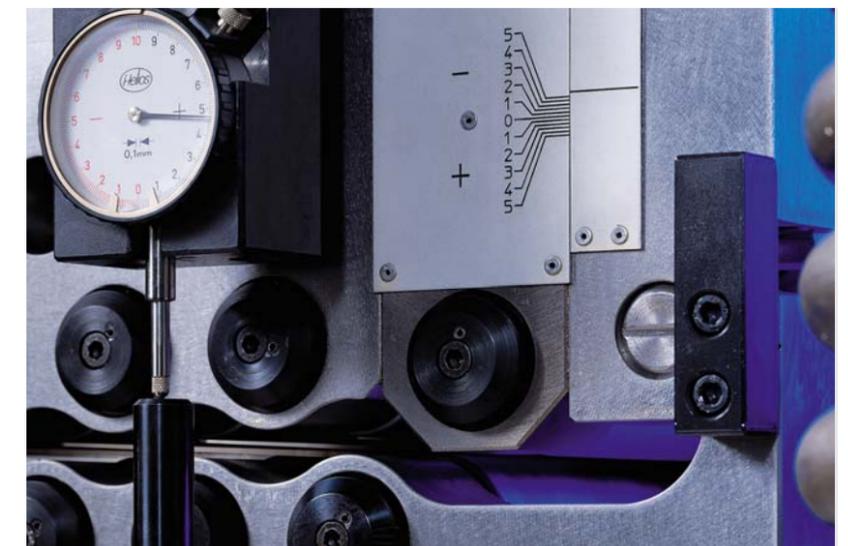
**OPTIONS**

- for maximum protection, the feed and straightening rollers are available with hard-chrome plating
- TOPOCROM coating of the feed and straightening pinch with a textured surface for oily coils
- PRAXAIR coating of the pinch roller for coils with a sensitive surface, e.g. aluminum
- for optimal protection of the material, pneumatic dirt scrapers are available for the pinch rolls

**13<sup>th</sup> Straightening Roller**

Straightening rollers can be removed quickly and easily since they are packaged as a complete cassette. A quick-release coupling makes removal and re-installation of the roller cassette easier. Hydraulically actuated roll-bars ensure easy movement and uncomplicated handling.

As an option, straighteners in the A-series can be equipped with a 13th straightening roller. The separately adjustable 13th roller enables a defined exit-side bending of the coil.



*Dial gauges feature precise readouts for user-friendly reading of the straightening roller position.*



**OPTIONS: FEED ROLLS**

- TOPOCROM coating for the feed rolls with textured surface for oily strips
- FEBOREN coating of the feed rolls for strips with sensitive surfaces, e.g. aluminum
- Intermediate lifting with hydraulic 3-way valve or servo valve technology.

The gauging wheel provides an extra measure of feeding accuracy. To prevent leaving marks on sensitive coil materials, it is manufactured with a number of special coatings. Guide-in plates and generous lifting of the upper rollers enables the strip to be inserted accurately.

**Service Friendly Design**

When the coil line is used for feeding material to a press, optional telescoping conveyors and micro feeders are available. Depending on customer requirements, the conveyor can be supplied in lengths of 1,300 mm or 1,700 mm/51 or 67 inches. For line maintenance and cleaning, the telescoping conveyor can be opened on the feed side allowing easy and spacious access to the roll feed unit.



**No Marking on the Material**

In the basic version of the A-Series, coil lines and feed rolls are crowned, hardened, ground, and hard chrome plated. In this way, any marking on the material is unlikely. Depending on the design, the upper or lower roller is raised for the optimal strip positioning in the die. On the standard version, the rolls are pressure-adjustable by remote control. The intermediate lifting is designed for production of higher volume requirements. The generous lift stroke of 100 mm/4 inches in the upper roll also enables greater access for cleaning the rolls.



*On the basic model, the double strip layering guide is a manual operation by guide plates. Options include motorized and local adjustment by encoder or optical coil edge detection.*

**Lift Roller for Use with Press**

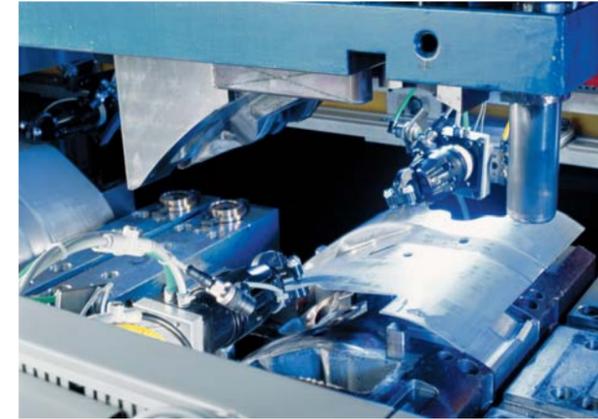
Lift cylinders for raising lower roller. Pressure adjustable from remote position, optional quick lifting for operation with a press.





**Complete System**

The ProfiLine system includes all lines and components required for reliable and cost-effective manufacturing in the stamping plant. In addition to the long space version, cost-saving and space-saving short space versions of the coil lines are available for use with progressive die presses and transfer presses.



**High Speed with Transfer**

Schuler's ProfiLine offers tri-axis transfer systems in five different models for the transport of the material. The various transfer systems achieve speeds up to 100 strokes per minute depending on size and transfer pitch.

**Equipped for All Manufacturing Tasks**

When used in combination with progressive dies the material feed is controlled by the coil line. A high degree of precision in feeding and fast coil changeovers permit flawless operation producing one part per stroke. The ProgDie presses of the Schuler ProfiLine range of products can optionally be equipped for transfer operation to meet any manufacturing requirement.



**Cost-Effective Combination**

In addition to the S-series coil lines A-series coil lines are also available for processing of sensitive material or material for class A parts.

If required, coil lines can be combined with destackers in front of the press in order to provide optimal, cost-effective feeding of the appropriate material.



**Uniform Control Architecture**

All Schuler ProfiLine lines and components are equipped with uniform control architecture and Visualization. This means that the time required for maintenance and repair can be shortened as well as the time required to train line operators.

# Coil Lines in Long Space Version A-Series

