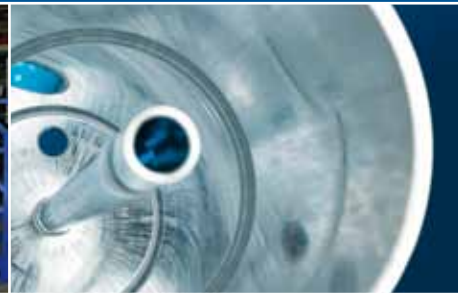




Impact extrusion presses XS series



Forming the Future

For a wide range of manufacturing applications and superior part quality ...



Aerosol cans.



Technical components.



Electronics industry.



Packaging industry.



Automobile industry.

... XS series impact extrusion presses

Schuler has a long tradition of bringing its customers advances in technology for metal forming and impact extrusion. For all industries that require high-quality extruded components, the XS series sets new standards in terms of cost-effective manufacturing, quality and production reliability.

The most important feature of the XS series is the motion characteristic of the knuckle-joint.

This design provides a slide motion that permits higher production speeds. At the same time, it improves part quality and broadens the spectrum of possible parts that can be made on the press. Other performance enhancing design features complement the motion characteristics.

OUR CAPABILITIES – YOUR ADVANTAGES

- Innovative knuckle-joint drive
- Play-free slide guiding
- Blank feeding and finished part unloading by NC servo drive
- Hydraulic tool clamping

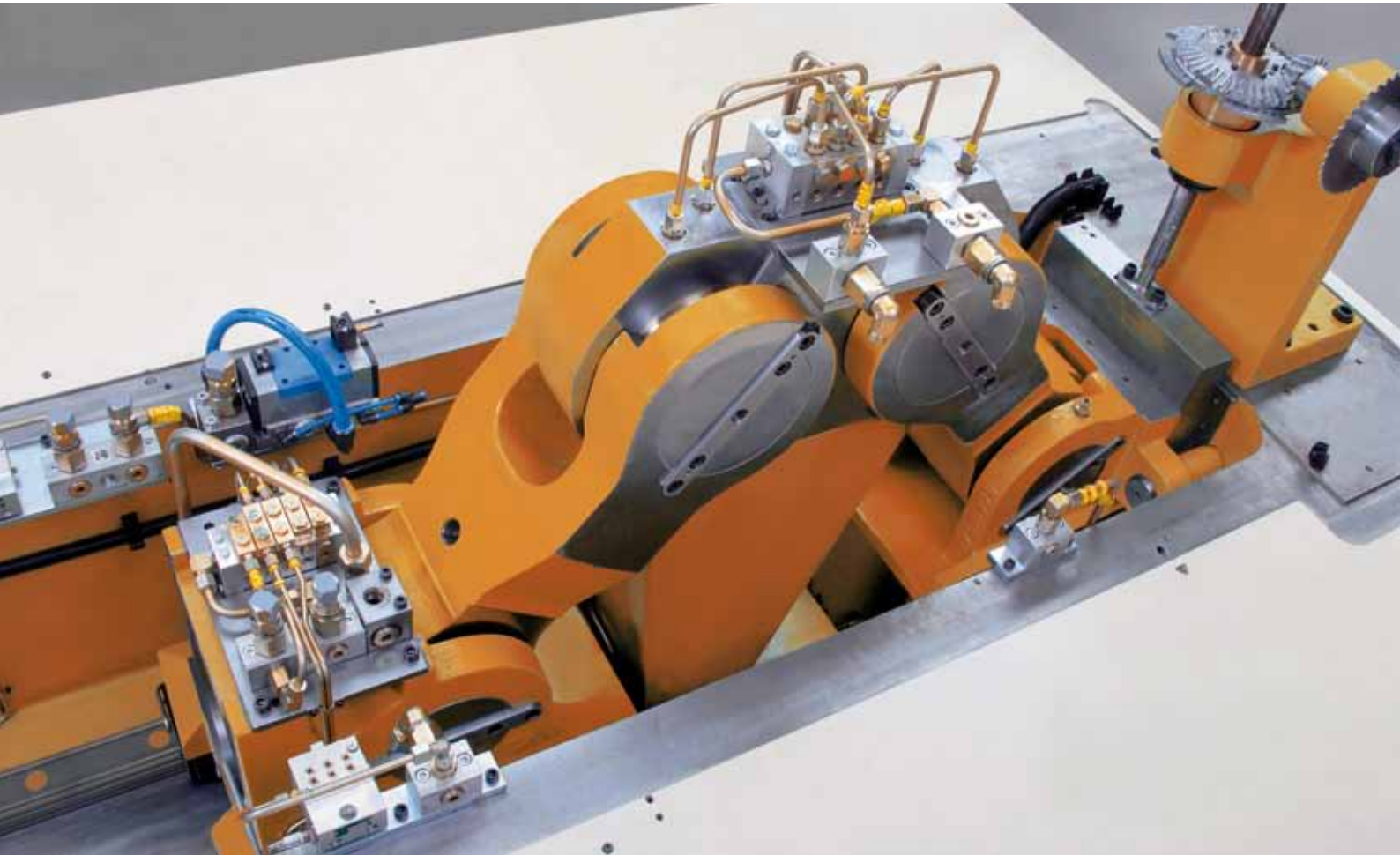


Aluminum containers, aerosol cans, tubes, capacitors ...



... a wide range of high quality parts can be cost-effectively produced on the XS series.

IMPACT EXTRUSION PRESSES



INNOVATIVE KNUCKLE-JOINT DRIVE

The XS series has four articulated joints in the design of its knuckle-joint drive as compared to conventional impact extrusion presses with three. This creates slide motion characteristics that are especially favorable for both speed and part quality with very long nominal force travel. The slower impact speed on the slugs provides protection for the punches, and ensures longer tool lifetime.

Thanks to the longer nominal force travel, more material can be formed (thicker slugs). For example, the forming travel of model X250S is 20 mm, which is about three times that of conventional presses.

Thus, the XS presses are much more flexible in their range of applications. Now, significantly larger and more complex parts can be produced on this series.

YOUR ADVANTAGES – INNOVATIVE KNUCKLE- JOINT DRIVE

- Higher production rates
- A slower, constant forming speed for the highest possible part quality
- More part variety with the ability to process thicker slugs (longer nominal force travel)
- Lower impact speed resulting in significantly longer tool time life

**SLIDE MOTION COMPARISON:
A CONVENTIONAL IMPACT EXTRUSION
PRESS AND THE X250S**

1. Forward motion of the slide

The forward motion of the slide on the XS press begins earlier. Toward front dead center it becomes slower than on a press with conventional drive.

2. Forming phase

Thanks to the slower slide speed, the impact is softer than on a conventional press with the same stroke rate. After impact, the slide motion is constant and guarantees a very uniform speed for part forming.

3. Return of the slide

The slide return stroke of the XS takes place earlier and is faster than that of a conventional press.



Slide motion of the X250S (red) as compared to a conventional impact extrusion press (gray).

PLAY-FREE SLIDE GUIDING

The slide guiding is located under the slide. The slide is guided by linear ball bearing units. These linear ball bearing units are maintenance-free and ensure a very high degree of precision that is critical for maintaining uniform superior part quality.

**YOUR ADVANTAGE –
PLAY-FREE SLIDE GUIDING**

- Superior part quality



IMPACT EXTRUSION PRESSES



PRECISION CIRCULAR BLANK FEEDING AND FINISHED PART REMOVAL WITH NC SERVO DRIVE

A precise cycling sequence is critical for production at high speeds. The systems gain flexibility and can be controlled independently due to the uncoupling of blank feeding and finished part removal functions.

The NC servo drive controls the dial feed plate that provides both slug feed and part transfer. In this way the slugs can be guided smoothly in front of the die without vibration.

The finished part removal function is also driven by a servo motor. Here too, the motion has been optimized. It consists of three phases: the part is picked up slowly, quickly transferred out of the punch area and gently deposited onto the exit conveyor.

YOUR ADVANTAGES – SLUG FEEDING WITH NC SERVO DRIVE

- Precision slug feeding at cycle rates up to 240 spm
- Significantly reduced feeding speed and accelerations ensure completely smooth, vibration free operation.
- Independent control
- Feeding function independent of part removal function
- Gentle part handling

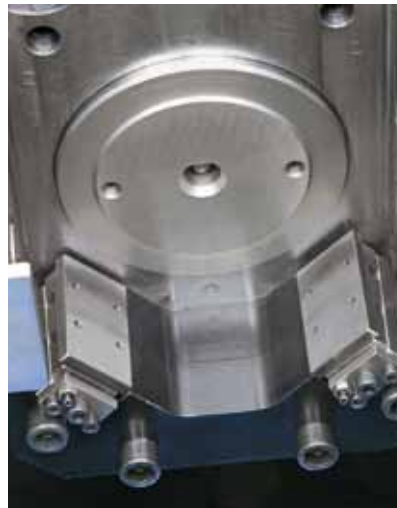


HYDRAULIC TOOL CLAMPING

Tool changeovers can be performed in a matter of a few minutes. The tool holders are self-centering by means of specially shaped receptacles, eliminating the need to adjust the die relative to the punch.

YOUR ADVANTAGES – HYDRAULIC TOOL CLAMPING

- Self-centering, no tool adjustment
- Faster tool changeovers



Self centering receptacles.



Receptacle with die.

MODEL OVERVIEW: IMPACT EXTRUSION PRESSES OF XS MODEL SERIES

Model	X150S	X250S	X300S	X400S	X630S	X1200S
Capacity [kN]	1,500	2,500	3,000	4,000	6,300	12,000
Stroke* [mm]	330	350	380	430	550	600
Stroking rate* [min]	220	210	200	160	60	50
max. nominal force travel [mm]	10	20	15	25	30	40
max. part diameter [mm]	45	59	66	75	90	125
max. extrudable length* [mm]	230	260	280	330	400	465

All specifications apply to AL 99.5; wall thickness 0.3 mm. * Other strokes and stroking rates available upon request. ** Dependent on part geometry.

OTHER TECHNICAL DETAILS

Additional performance enhancing design features complement the motion characteristics of the XS series and ensure a user-friendly, low maintenance and all-around reliable operation.

ADDITIONAL TECHNICAL DETAILS

- Maintenance-free, molybdenum-coated adjustment wedge to ensure consistent and precise positioning of the punch
- Quick-clamping system for stripper rings
- Oil heating/cooling to ensure reliable operation in any climate between 10–45°C (50–112°F)
- Supply of purified air for knuckle-joint and clutch to prevent contamination by dirt particles
- Recirculating oil lubrication with metering piston distributor system for monitoring the amount of lubricant at each lubrication point
- Press frames in monoblock design



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SCHULER PRESSEN GMBH

Bahnhofstr. 41 | 73033 Göppingen | Germany

Phone +49 7161 66-0 | Fax +49 7161 66-233

info@schulergroup.com | www.schulergroup.com