



# XS Series

Impact extrusion presses

# XS Series

## **XS SERIES IMPACT EXTRUSION PRESSES.**

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



Hinterkopf knuckle-joint drive on an impact extrusion press X-300 S.



Aerosol cans, bottle cans and collapsible tubes.

### **HIGH-QUALITY EXTRUDED PARTS.**

For packaging industries that requires high-quality extruded components, the XS series sets new standards in terms of cost-effective manufacturing, quality and production reliability.

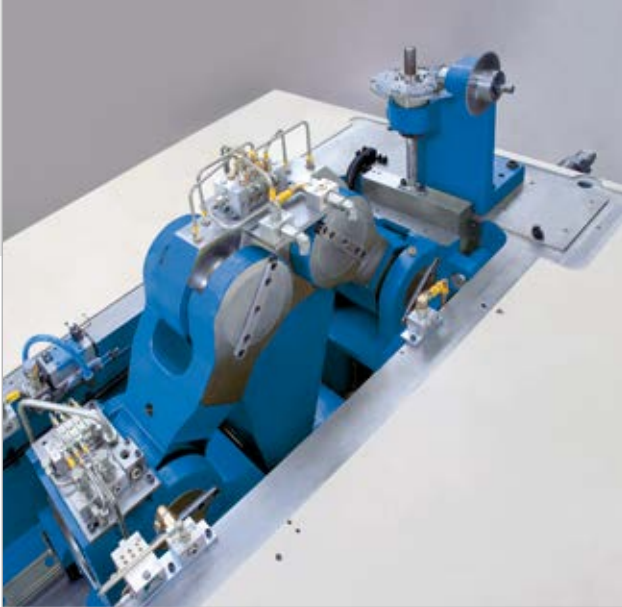
The most important feature of the XS series is the motion characteristic of the knuckle-joint. This design provides a slide motion that permits higher production speeds and material such as higher strength aluminum alloys. At the same time, it improves part quality and broadens the spectrum of possible parts that can be made on the press.

Other performance enhancing design features complement the motion characteristics.

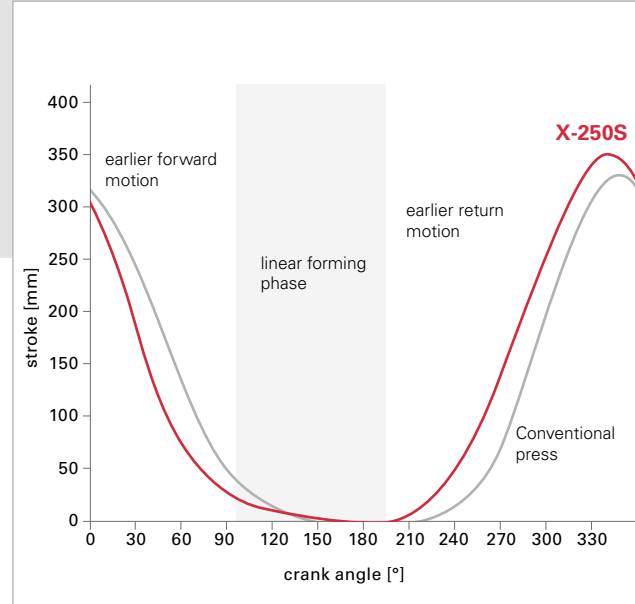
### **ADVANCED FEATURES:**

- Innovative knuckle-joint drive
- Hydrostatic slide guiding
- Blank feeding and finished part unloading by servo drive
- Hydraulic tool clamping
- Processing of higher strength aluminum alloys

# XS Series



Higher production rates with knuckle-joint drive.



Slide motion of the X-250S (red) in comparison to a conventional impact extrusion press (gray).

## 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 forming travel. The slower impact speed on the slugs provides protection for the punches and ensures longer tool lifetime.

Thanks to the longer nominal force stroke, more material can be formed (thicker slugs). For example, the forming stroke of the 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. Significantly larger and more complex parts can now be produced on this series.

### // Your advantages – Innovative knuckle-joint drive:

- Higher production rates
- Superior part quality
- Greater part variety with the ability to process thicker slugs (longer nominal forming stroke)
- Longer tool life

## SLIDE MOTION COMPARISON: A CONVENTIONAL IMPACT EXTRUSION PRESS AND THE X-250S

### // 1. Forward motion of the slide

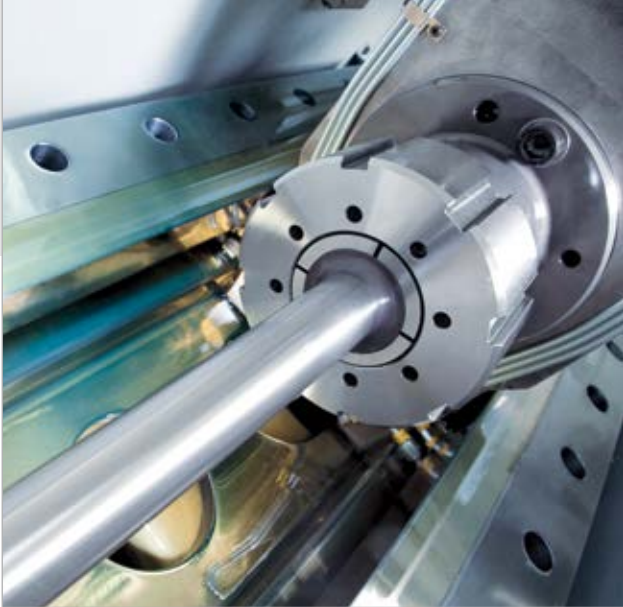
The forward motion of the slide on the XS press is faster. Towards front dead center it becomes slower than on a press with conventional drive.

### // 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 more constant and guarantees very uniform speed forming.

### // 3. Return of the slide

The slide return stroke of the XS starts earlier and has the same speed as a conventional press.



Hydrostatic slide guide.



NC servo drive for feeding and removal.

### **WEAR-FREE HYDROSTATIC SLIDE GUIDE**

Very stiff wear-free slide guiding guarantees utmost precision in slide movement. This is essential to assure the quality of the parts and provide long tool life, while achieving high production rates.

#### **//Your advantages:**

- Wear-free hydrostatic slide guide
- Highest precision
- Superior part quality
- Maximum tool life
- Highest production rates

### **INDEXING SLUG FEEDER AND PART TRANSFER WITH NC SERVO DRIVE**

A precise indexing sequence is essential for production at high speeds. The systems gain flexibility and can be controlled independently due to the uncoupling of the slug feeding and finished part transfer functions.

The NC servo drive controls the dial feed plate that provides both slug feed and part transfer. 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 second 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 300 spm
- Significantly reduced accelerations ensure completely smooth, vibration-free operation
- Independent control
- Gentle part handling

# XS Series



Self-centering die block clamping.



Hydraulic punch clamping.



Impact extrusion press X-300 S.



Impact extrusion press X-150 S.

## 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

### // Other technical Details

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

### // Additional technical Details

- 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 filtered air for knuckle-joint and clutch reduces contamination by dirt particles
- Recirculating oil lubrication with piston distributor system for monitoring the amount of lubricant at each lubrication point
- Press frames in monoblock design
- Bottom thickness regulation
- Press power measurement
- Innovative gear design

**MODEL OVERVIEW:  
IMPACT EXTRUSION PRESSES OF XS MODEL SERIES**

Model	X150S	X250S	X300S	X400S
Capacity [kN]	1,500	2,500	3,000	4,000
Stroke* [mm]	330	350	380	430
Stroke rate* [1 / min]	300	250	200	200
max. nominal force travel [mm]	10	20	8	25
max. slug diameter [mm]	45	59	66	75
max. extrudable length** [mm]	230	260	280	330

All specifications apply to AL 99.5; wall thickness 0.3 mm (Specification for other alloys to be defined)

\* Other strokes and stroking rates available upon request

\*\* Depending on part geometry



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