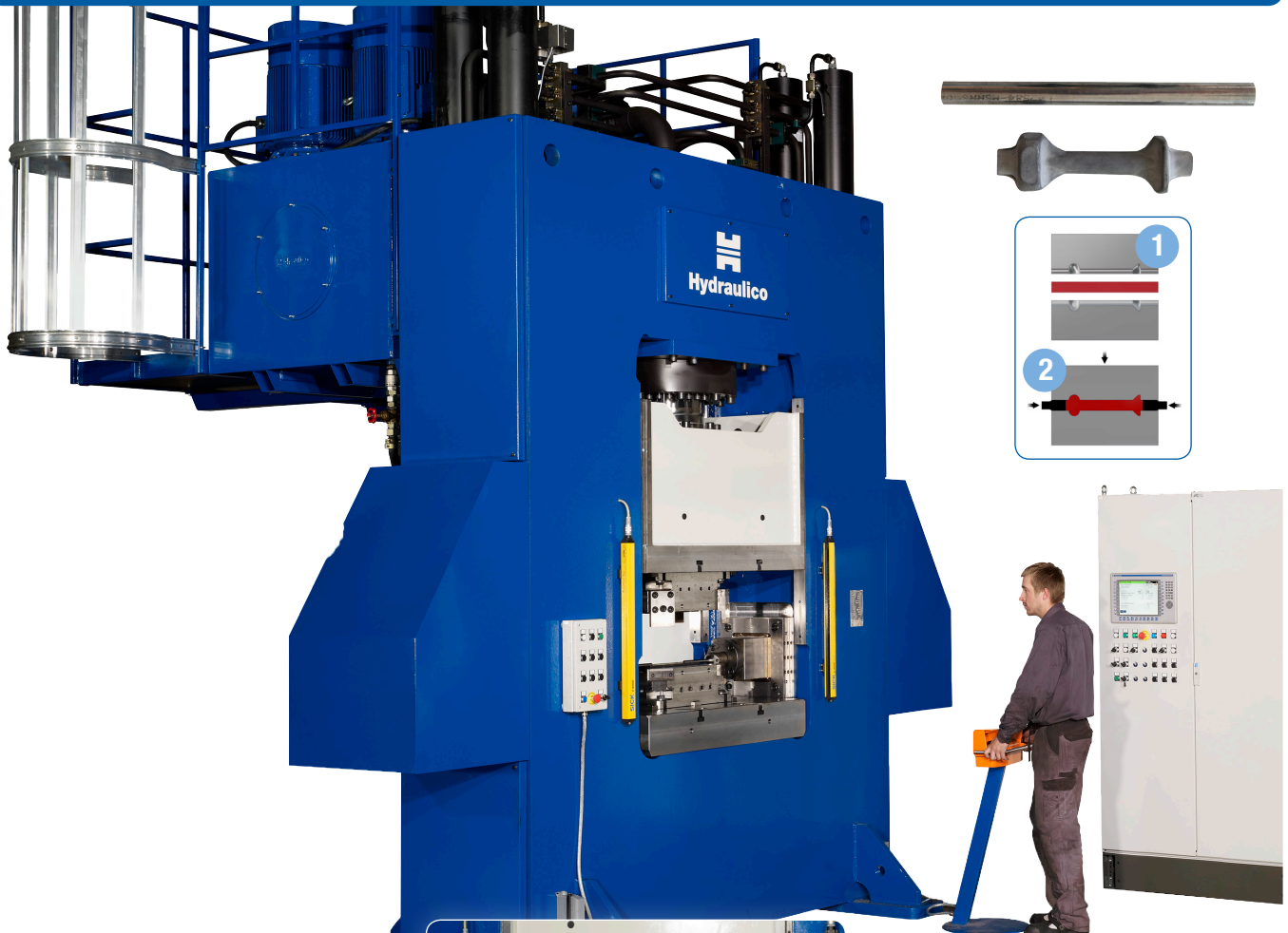


# Double Upsetting Press

**1 servo double upsetter delivers more output than 3 mechanical upsetters!**



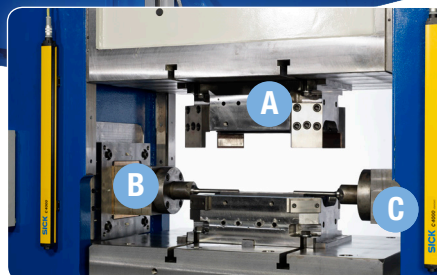
The Hydraulic USP has 3 complete main systems: one clamping cylinder (A) and two side forging cylinders (B) and (C).

## Flexibility boost:

- Allows extrusion, double and single upsetting and pre-forging
- Asymmetric parts in only 1 cycle (independent side cylinders)
- Fastest production change

## Broader market:

- Adapts to input material and blade type (stator/rotor)
- Satisfies multiple markets; Jet Engine + Turbine markets



**A proven, long lasting technology that offers reduced cost, increased production, and more flexibility!**

## Increased profit:

- Up to 60% less handling and heating per part
- Up to 60% increase in formability
- Up to 50% less press cycles per part
- Up to 20% in material savings

## Full process control:

- +/- 0,1 mm accuracy
- Forming speeds from 0.2mm/s up to 350mm/s
- Control of all forging parameters; including die contact time, temperature, speeds, forces and stop positions

## Hydraulic double upsetting presses

# Press specifications

	USP 300/150	USP 400/200	USP 500/300	USP 700/500
<b>Press Data</b>				
Tonnage	30-300 tons	40-400 tons	50-500 tons	70-700 tons
Daylight	700 mm	700 mm	700 mm	1500 mm
Stroke	400 mm	400 mm	400 mm	1150 mm
Table	1200x800 mm	1200 x 800 mm	1200x950 mm	1500x1150 mm
Approach speed	400 mm/sec	300 mm/sec	400 mm/sec	500 mm/sec
Pressing speed	13-43 mm/sec	33-10 mm/sec	16-26 mm/sec	58-34 mm/sec
Return speed	350 mm/sec	300 mm/sec	300 mm/sec	250 mm/sec
<b>Right Cylinder</b>				
Tonnage	15-150 tons	20-200 tons	30-300 tons	50-500 tons
Stroke	200 mm	200 mm	200 mm	400 mm
Pressing speed pump	27-89 mm/sec	21-66 mm/sec	14-43 mm/sec	24-34 mm/sec
Pressing speed accumulator	50-350 mm/sec	60-120 mm/sec	40-250 mm/sec	30-200 mm/sec
Stroke with accumulator*	150 mm	100 mm	80 mm	100 mm
Return speed	140 mm/sec	100 mm/sec	70 mm/sec	70 mm/sec
<b>Left Cylinder</b>				
Tonnage	15-150 tons	20-200 tons	30-300 tons	50-500 tons
Stroke	200 mm	200 mm	200 mm	400 mm
Pressing speed pump	27-89 mm/sec	21-66 mm/sec	14-43 mm/sec	24-34 mm/sec
Pressing speed accumulator	50-350 mm/sec	60-120 mm/sec	40-250 mm/sec	30-200 mm/sec
Stroke with accumulator*	150 mm	100 mm	80 mm	100 mm
Return speed	140 mm/sec	100 mm/sec	70 mm/sec	70 mm/sec

\*Stroke with accumulator at full speed and force

### Turn-key solutions:

- Dies, lubrication, automation, furnaces, and any other integrated system
- Specific solutions such as isothermal forging in protected atmosphere

### Other advantages:

- Proven technology
- Fewer forging presses, fewer tools deliver same output
- Improved quality of surface and metallurgic structure
- Less friction means less tool maintenance
- Impact noise eliminated

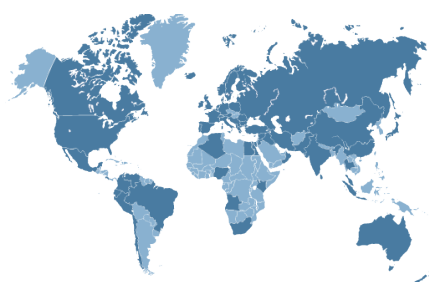


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