



SCREW PRESSES

Precision for solid forming



PRECISION SCREW PRESSES

Certified quality meets high flexibility

LASCO screw presses are ideal for precision forging of components made of steel, high-alloy materials and non-ferrous metals. With the SPP and SPR types, the LASCO product portfolio includes direct-driven screw presses with different forming characteristics.

Performance overview

- ▶ Precision forging
- ▶ Hot or cold forming
- ▶ Upsetting
- ▶ Hot or cold calibrating
- ▶ Coining

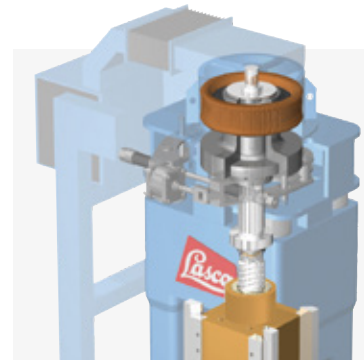
QUALITY FEATURES:

- ▶ Exact energy dosage and high working capacity
- ▶ Optimum thread geometry of screw and screw nut
- ▶ Proven three-piece frame structure
- ▶ Efficient control and operator guidance
- ▶ Maximum repeat accuracy and optimum efficiency through frequency converter
- ▶ Digital linking-up with in-house ERP system and cloud possible

SPP SERIES

For calibration and forming tasks with **high force requirements**

- Features**
- ▶ For forming tasks with shorter forming paths
 - ▶ Able to absorb impact blows, without engaging a slipping clutch
 - ▶ Specialized in dimensionally accurate calibration and coining
 - ▶ Forming energy can be precisely set from 1 to 100%
 - ▶ Field of application e. g. in the manufacture of medical instruments or high-quality drive components in the aviation industry

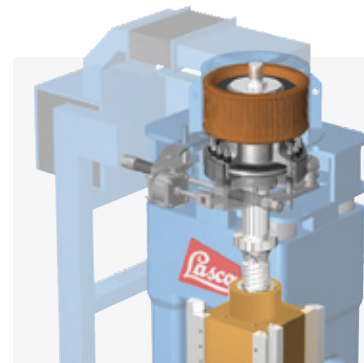


Basic design of the SPP series drive (schematic representation)

SPR SERIES

For forming tasks requiring a **large amount of work capacity**

- Features**
- ▶ Slipping clutch in the flywheel system enables - compared to SPP - a doubling of the working capacity with the same maximum force and also functions as overload protection
 - ▶ Universally usable, also for applications with long forming paths
 - ▶ Forming energy can be precisely set from 1 to 100%
 - ▶ Field of application examples in the production of high-quality chassis components in the automotive industry



Basic design of the SPR series drive (schematic representation)

THE LASCO SCREW

Screw

A unique feature of LASCO screw presses is the thread geometry of the screw forged from high-alloy annealed steel. High rigidity is achieved through the stationary bearing and optimum screw length. Sophisticated calculation methods combined with the generous dimensioning of the screw diameters ensure a long service life and high operational reliability.

Screw nut

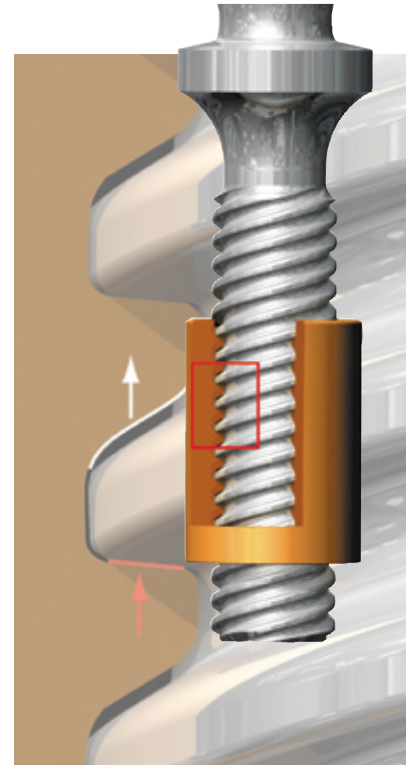
The screw nut located in the press ram is made of high-quality brass alloy and has very good sliding and emergency running properties. The fully optimized LASCO thread profile is incorporated here in the same way as on the screw.

Thrust bearing

The thrust bearing of the screw consists of wear-resistant brass alloy. The dome-shaped bearing point reliably transmits the process forces into the press frame and ensures optimum load distribution even in case of eccentric loads.

Telescopic guard

The robust telescopic guard reliably protects the screw and screw nut from scale and dirt.



Schematic view of screw and screw nut

THE FREQUENCY CONTROLLED DRIVE

The frequency converter drive enables four-quadrant operation and thus the recovery of electrical energy during the braking phases in the up and down movement of the press ram. The operator only has to specify the energy and stroke for the process. All relevant control data are automatically determined by the control system.

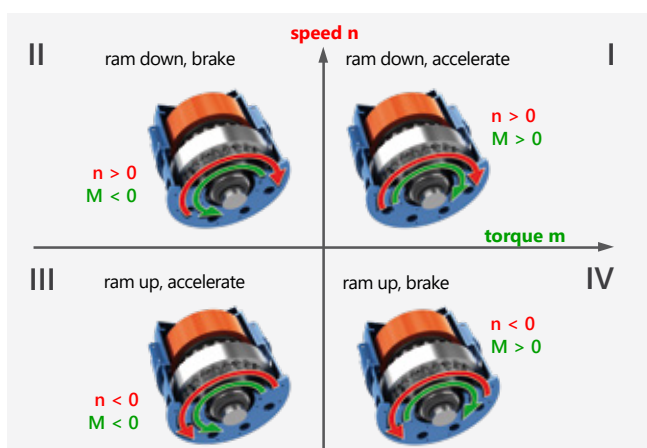


Illustration of a four-quadrant operation

QUALITY FEATURES

- ▶ Exact repeat accuracy of the specified forming energies
- ▶ Time-optimized motion sequence (short cycle times even at low energies)
- ▶ Minimal energy consumption due to regenerative braking
- ▶ Power factor $\cos \varphi \approx 1$

DISTINCTIVE VERTICAL INTEGRATION

A large number of different forgings can be produced with LASCO screw presses:

LASCO screw presses are popular for producing parts in:

- ▶ Automotive industry
- ▶ Aerospace industry
- ▶ Medical technology
- ▶ Manufacture of bicycle components
- ▶ Manufacture of household goods

Further areas of application on request!

Competence and know-how in design and engineering enable LASCO to find a solution even for the most difficult requirements.

Challenge us!



Precision parts of aluminium alloy



Precision parts of steel alloy

BENEFITS OF THE LASCO SCREW PRESSES

- ▶ Long lifetime and operational safety due to robust design
- ▶ Exact energy dosage from 1 - 100% can be called up with high repeat accuracy
- ▶ Energy recovery through regenerative braking (feedback)
- ▶ The spring stiffness of the frame is precisely adjusted by pre-tensioned tie rods
- ▶ The division into press base, upright and crosshead prevents notch effects
- ▶ Low system load through current peaks due to optional flywheel storage
- ▶ High press stroke rate even at low forming energies
- ▶ Low maintenance and service costs

Scan now and learn more
about screw presses!



TECHNICAL DATA

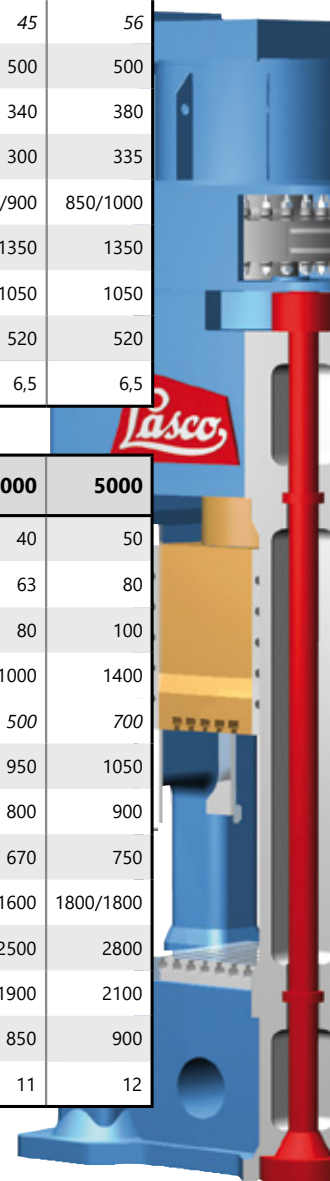
SPR / SPP SERIES

SPR / SPP SERIES		200	250	315	400	500	630	800	900
Nominal press force	[MN]	2	2,5	3,15	4	5	6,3	8	9
Permanently permissible press force	[MN]	3,15	4	5	6,3	8	10	12,5	14
Impact blow force		4	5	6,3	8	10	12,5	16	18
Gross energy	SPR SERIES [kJ]	11	16	22	31,5	40	63	90	112
Gross energy	SPP SERIES [kJ]	6	8	11	16	20	32	45	56
Ram stroke	[mm]	280	300	320	350	420	450	500	500
Stroke to achieve the maximum forming energy	[mm]	170	190	215	250	270	300	340	380
Screw diameter	[mm]	150	170	190	210	240	265	300	335
Ram width/ram depth	[mm]	500/550	550/600	600/630	670/710	750/800	750/800	850/900	850/1000
Max. distance press table/ram	[mm]	700	750	850	950	1070	1240	1350	1350
Daylight between guides	[mm]	610	710	760	840	925	930	1050	1050
Width between lateral windows	[mm]	250	260	280	450	500	520	520	520
Total height	[m]	4	4,3	4,5	4,8	5,3	5,6	6,5	6,5

SPR / SPP SERIES		1000	1250	1600	2000	2500	3150	4000	5000
Nominal press force	[MN]	10	12,5	16	20	25	31,5	40	50
Permanently permissible press force	[MN]	16	20	25	32	40	50	63	80
Impact blow force	[MN]	20	25	32	40	50	63	80	100
Gross energy	SPR SERIES [kJ]	130	180	250	355	500	710	1000	1400
Gross energy	SPP SERIES [kJ]	65	90	125	178	250	355	500	700
Ram stroke	[mm]	550	550	600	600	650	850	950	1050
Stroke to achieve the maximum forming energy	[mm]	380	400	450	500	550	710	800	900
Screw diameter	[mm]	335	375	425	475	530	600	670	750
Ram width/ram depth	[mm]	850/1000	900/1000	1000/1150	1150/1250	1250/1400	1250/1400	1600/1600	1800/1800
Max. distance press table/ram	[mm]	1500	1600	1750	1900	2000	2200	2500	2800
Daylight between guides	[mm]	1050	1125	1280	1430	1500	1500	1900	2100
Width between lateral windows	[mm]	520	560	560	560	800	800	850	900
Total height	[m]	7	7,5	8,5	9	10	10,5	11	12

- ▶ Other press types and sizes on request
- ▶ Hydraulic ejector in table and/or ram available on customer request
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Partial section through a LASCO screw press



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