

## Laboratory Spinning Unit LSE 2000-2

Standard machine:

- 3-roller short staple drafting system
- 3-roller long staple drafting system
- Creel for flyer and rubbing frame bobbins
- Fixed spindle bearing plate with an individual spindle drive system on the 6 spinning heads
- Moving ring rail
- Production of S and Z yarns is possible
- Production of fancy yarn (programmable via software)
- Integrated suction of thread breakage
- Integrated control cabinet

Optional additional components:

- 4-roller short staple drafting device (2 apron zones) incl. feed creel (for sliver spinning)
- Core yarn device for elastic core material
- Core yarn device for inelastic core material (wire)
- Compact yarn device for 3-roller short staple drafting device
- Compact yarn device for 3-roller long staple drafting device
- Components for the production of Siro-spun yarns

What can the LSE 2000-2 do?

- Flexible laboratory spinning unit for short, medium and long staple range (basic version for cotton)
- Processing of staple fiber yarns made of cotton, wool, chemical fibers as well as blends of these materials
- Production of classic yarns or compact yarns
- Processing of core fibers ranging from inelastic to highly elastic
- Production of mock twisted yarn structures (Siro spinning process) with various yarn designs (Siro-spun / core / compact as well as combinations)
- Production of programmable fancy yarns (length, thickness, distance)
- Production of S and Z yarn

Advantages of the LSE 2000-2 for maximum flexibility:

- Modular design
  - Basic configuration can be extended with various components
  - Drafting devices are easily interchangeable
- Compact design (integrated control cabinet)
- No additional compressed air connection required

- Variable spinning geometry: adjustable drafting inclination (30° to 90° - in case of compact yarn production up to 45°), spinning angle
- Height-adjustable rails for balloon control rings and thread guides
- Infinitely adjustable drafts due to individual drives of the drafting rollers
- Same spindle speeds at all working positions due to 6 individual synchronous motors
- Easy operation and monitoring via control panel
- Maximum flexibility for a wide variety of yarn constructions
- Installation of spinning means from different manufacturers possible
- Optional remote diagnosis

#### Additional services:

- On-site commissioning with training for operating personnel
- Test spinnings
- Material tests in the institute's own textile laboratory (e.g. tensile testing, hairiness measurement, yarn testing (USTER TESTER))

#### Technical data of the LSE 2000-2

Spinning positions:	6
Spindle gauge:	75 mm
Spindle speed:	3.000 – 25.000 U/min
Spindle drive:	single-motor, frequency-controlled synchronous drives, with electric braking device
Drafting device	3-roller short staple drafting device 3-roller long staple drafting device 4-roller short staple drafting device
Compacting unit:	based on Süssen EliteCompactSet (for 3-roller short staple drafting device)
Weighting arms:	Süssen 3-roller short staple drafting device Süssen 3-roller long staple drafting device Süssen 3-roller short staple drafting device
Draft:	up to 150-fold for 3-roller drafting device up to 350-fold for 4-roller drafting device
Bottom rollers:	3 – 4, single motor driven
Spinning rings / traveler	according to customer requirements
Length of tube:	180 – 200 mm
Ring rail drive:	single motor driven
Drafting inclination:	30° to 90° without compacting unit 30° to 45° with compacting unit
Yarn twist:	120 to 3.000 T/m (S and Z)
Yarn count:	4 – 200 tex

Fancy yarn:	settings via operating terminal / software
Siro-spun yarn:	optional
Elastic core yarn:	optional
Inelastic core yarn:	optional
Creel:	flyer and rubbing frame bobbin feed, optional feed creel for sliver spinning (max. can diameter 600 mm)
Thread breakage suction:	integrated
Suction capacity:	max. 78 m <sup>3</sup> /h
Control cabinet:	integrated
Machine control:	Siemens SIMOTION D
Operation panel:	Siemens SIMATIC Comfortpanel
Remote diagnosis:	Siemens SCALANCE SC636-2C (optional)
Total electrical power:	7 kW
Connection to supply system:	400 V AC TN-S (3-ph + N + PE) 60 Hz
Customer feed with backup fuse:	32 A
Control voltage:	24 V DC
Degree of protection:	IP 54
Compressed air supply:	not required
Operating temperature range:	from 15 °C to 32 °C
Humidity:	max. 80 %, non-condensing
Total length:	1.370 mm
Width:	960 mm
Height:	2.570 mm
Total weight:	750 kg