

PK 3000 Series Weighting Arms

**Innovative draft system
for short-staple ringspinning machines**



PK 3000 Series Weighting Arms

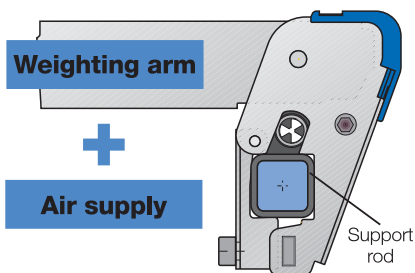
A convincing draft system concept with complete pneumatic loading

Anything else is now obsolete

The weighting arm PK 3000 is an innovative and completely pneumatic weighting arm system for short-staple ringspinning machines.

In the PK 3000, the air supply to the drafting system is completely integrated into the support rod. The weighting arm and the support rod therefore make up a closed system unit. The air is routed from support rod to support rod via a special and extremely reliable connection technology.

Pneumatic Draft System



Additional air tubing between the arms and outside the support rod are not needed. System safety therefore attains a new and high standard. The PK 3000 weighting arm system can be installed without problem on all current ringspinning machines. No change of the roller stands of the machine is necessary. All the outstanding features make the PK 3000 the ideal weighting arm for advanced machines.





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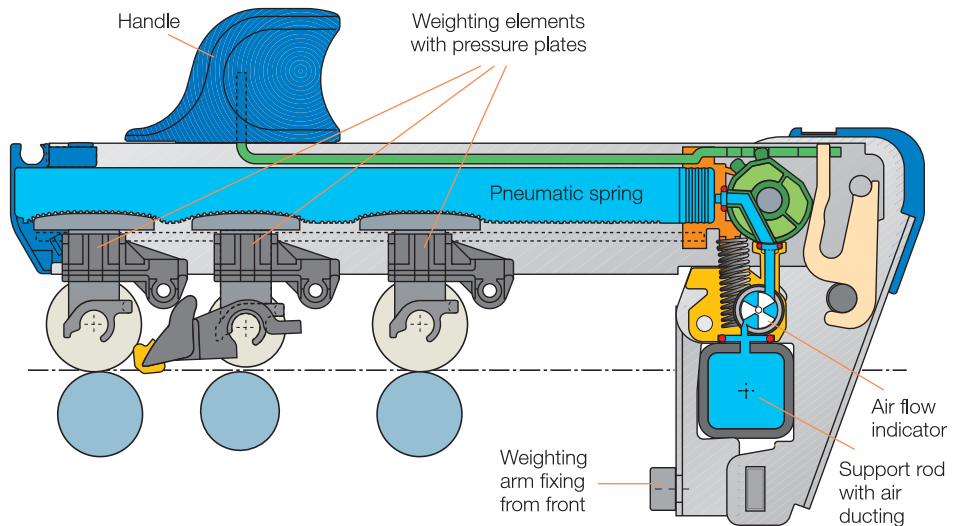
No other has so many advantages

Attractive in design and function

Weighting arms of the PK 3000 series with pneumatic loading of the top rollers are designed for use in 3-roller double apron draft arrangements for spinning cotton, man-made fibres or blends thereof.

In the PK 3000, design and function complement one another in a convincing and harmonious form. A modern appearance, attractive in the straightness of its lines. The shape of the handle assists easy and ergonomic operation of the weighting arm. As regards its function, the PK 3000 is impressively easy to assemble and to use, to an extent previously unknown in short-fibre draft systems:

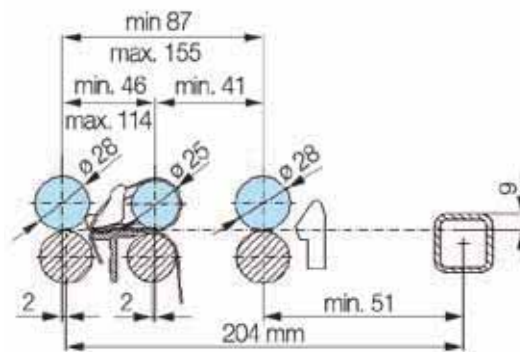
- Reduction of operating forces
- Reduction of operating and setting efforts
- Centralised and infinitely variable pressure setting (ruling out the possibility of incorrect settings of individual arms)
- Practical and reliable partial load
- Greater versatility in application
- New drafting system configurations are possible



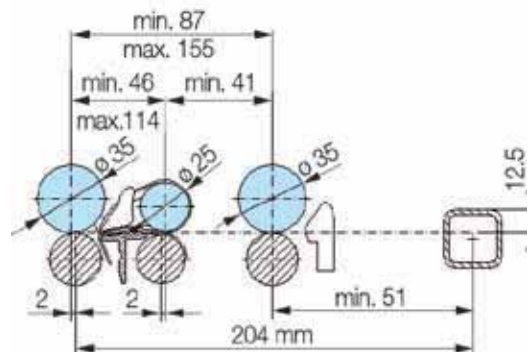
3-roller version



PK 3000-1257 300



Draft arrangement PK 3025-1257 300



Draft arrangement PK 3035-1259 710

More possibilities for use

The PK 3000 opens up an even wider range of possible applications and offers a flexibility that is unique:

- A total draft zone width of 155 mm permits additional and previously unfeasible draft system variants.
- Spinning of new fibre types, such as difficult-to-draft synthetics or heavily twisted rovings.
- Spinnable fibre length up to 60 mm.

- 4-roller-draft system possible thanks to extended total draft field length.
- Due to its large design space the PK 3000 is the ideal weighting arm for special applications, such as sliver to yarn spinning.
- Extension of the working range by up to 30% higher weighting pressures and by centralised and infinite pressure setting.

4-roller version



PK 3000-1259 022

The Air Supply System

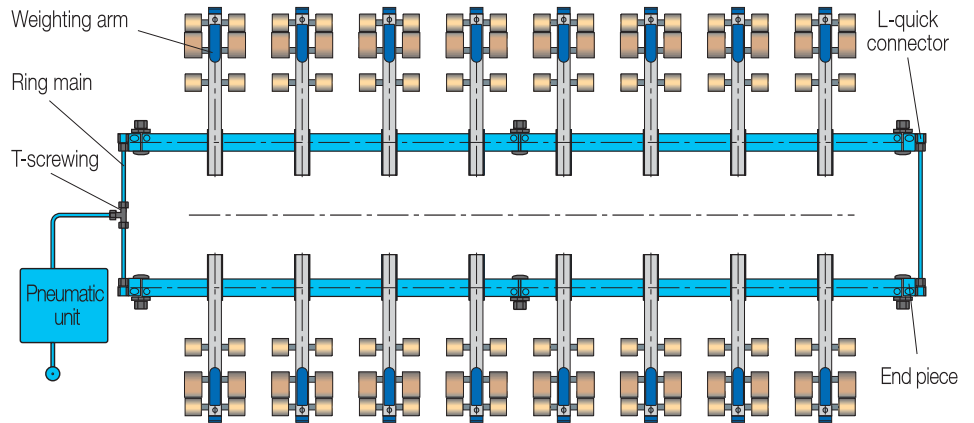
Constant pressure - from spinning position to spinning position

The weighting pressure in the PK 3000 is generated pneumatically by a closed-circuit compressed-air system.

Pressure setting and system monitoring are performed centrally at the pneumatic unit installed in the head-stock. The personnel-intensive and time-consuming setting work for every single arm is a thing of the past. In the event of a machine shut-down, the entire machine can also be set centrally to partial load at the pneumatic unit.

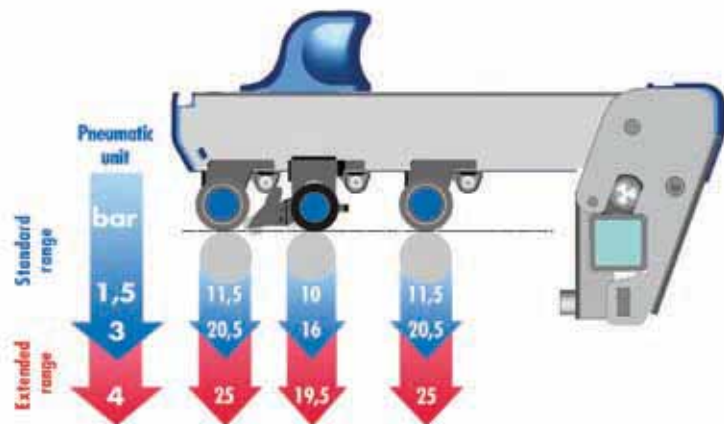
Thanks to the closed-circuit ring line system, all weighting arms are subject to the same air pressure.

- The closed-circuit compressed-air system of the PK 3000 ensures that identical pressure conditions prevail in all arms and at all elements. This reduces the loading differences between the spinning positions considerably.
- Centralised pressure setting permits infinite and rapid adaptation to the technological requirements of the material being spun. The era of fixed pressure stages is finally over, and the possible pressure setting range goes far beyond previous setting possibilities.



- For higher loading than 20 daN (3.0 bar) at front top roller further inquiry to the respective machine maker is necessary.
- The selected contact pressure is only dependent on the air pressure in the system and on the size of the pressure plate of the weighting

- element. The load is generated directly where it is needed.
- Subsequent grinding of the cots may reduce the cot diameter of rear and front top rollers by a maximum of 3 mm. Within this range it is not necessary to readjust the height of the weighting arm or increase the loading via increasing the air pressure.



PK 3000

Convincing safety concept and easy assembly

The PK 3000 weighting arm system is characterized by an extensive safety concept - both for the individual system components and for the process safety itself. All components used are individually checked for tightness. For the mechanical components, only high-grade materials are used.

A comprehensive safety concept based on the steps

- detecting
- finding
- rectifying

ensures that possible leaks in the system can be quickly detected and found, and easily rectified.

The integrated pneumatic unit monitors the closed-circuit compressed-air



The pneumatic unit with pressure monitor

system and transmits a signal to the machine control. An inadmissibly high air flow is shown either by an optical display or by direct shutdown of the machine.

A pressure monitor protects the running of the machine at the power supply against shortfall of the working pressure and guarantees that the machine will be turned off as a precaution in case of high pressure loss (or even total pressure loss).

The individual flow indicator on the arm permits dependable checking of each arm and rapid location of possible leakage in it. Individual parts can be replaced quickly and simple - should that ever be necessary.

The assembly - fast and flexible

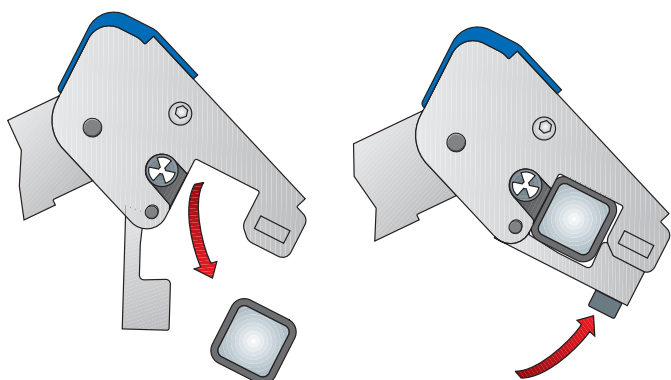
The PK 3000 weighting arm system is easy to assemble. Mounting of the arms onto the support rod is fast and simple thanks to positioning from above. Each arm can be separately mounted and replaced at every spinning position. The previously necessary „threading“ of the arms onto the support rod is needless. The PK 3000 can be fixed easily and quickly from the front on the support

rod. Secure connection of the arm to the air supply is achieved simultaneously with fixing.

The easily accessible height adjustment feature on the side of the bracket permits quick and simple height adjustment without releasing this fixing. Special gauges for setting field width and height will save your mechanics valuable time for other jobs.



The simple checking of the height position of the weighting arms being in the operating state is also part of the convincing safety concept.



The mounting of the PK 3000 onto the support rod is fast and simple

PK 3000

Amazingly simple operation

The pneumatic system makes it possible: the ergonomically shaped handle is pushed lightly rearwards: the compressed air present in the arm escapes, and the arm is opened automatically by spring force. Closing is just as simple: the arm is moved downwards and lightly positioned while the handle is pulled forward. The arm practically locks itself. The entire system operates free of wear thanks to this pressure-free actuation. In the event of a machine shutdown, the entire machine can also be set centrally to partial load. Partial load is selected in order to reliably prevent any penetration of the yarn twist into the drafting zone. This considerably reduces yarn breaks when starting up. The pressure

is low enough to protect even soft cots from permanent indentations from the bottom cylinder. The feared Moiré effect in the yarn is effectively prevented as a result.

The reduction of the design height even when the arm is opened means a further lightening of the effort needed for operation. With one manual operation precise pressure can be set for - e.g. - 1200 spinning positions. This represents not only more convenience and less work for the operating personnel, but also a calculable saving in time plus a gain in productivity.

The PK 3000 provides the spinning mill with a flexibility the mill managers have long been asking for to respond to changes on the market. The spinning



of new fibre types and the possibility of adapting weighting pressures to the material are decisive advantages that no other weighting arm system can provide.

The draft system components

Top Apron Cradles

Depending on the application, the weighting arms of the PK 3000 series can be fitted with the following top apron cradles:

Short staple top apron cradles OH 2022

for cotton and man-made fibres up to 45 mm length and for blends thereof.

Medium staple top apron cradles OH 2042

for cotton fibres over 40 mm length, man made fibres and for blends thereof up to cut lengths of 54 mm.

Long staple top apron cradles OH 1225

for man-made fibres of cut lengths up to approx. 60 mm length.



These are distinguished by the following advantages:

- Individual apron tensioning
- Up to 40% time saving thanks to simple apron exchange
- Low-friction and gentle apron running thanks to a special surface structure and optimum material combination

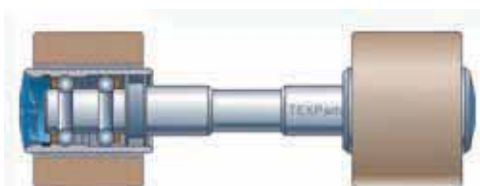
Top Rollers

For the PK 3000 weighting arms top rollers of LP 1000 series are used as standard draft equipment. These top rollers are products of the latest state-of-the-art roller bearing technology and convince by a precise running behaviour.



LP 1002 for PK 3025

Top roller for use as rear and front top roller. Roller diameter 19 mm.
Diameter above cot 28 mm.



LP 1002 for PK 3035

Top roller for use as rear and front top roller. Roller diameter 19 mm.
Diameter above cot 35 mm.



LP 1003 for PK 3025/PK 3035

Top roller with special sleeves for use as apron top roller. Roller diameter 19 mm.
Diameter above special sleeve 25 mm.

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